DEPARTMENT OF THE NAVY
JUSTIFICATION OF ESTIMATES
FOR FISCAL YEAR 1987

SUBMITTED TO CONGRESS FEBRUARY 1986

PROCUREMENT

AIRCRAFT PROCUREMENT, NAVY

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THIS VOLUME CONTAINS JUSTIFICATION MATERIAL SUPPORTING THE PRESIDENT'S FISCAL YEAR 1987 BUDGET PRESENTATION TO CONGRESS.

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Department of the Navy
Aircraft Procurement, Navy
Justification of Estimates for Fiscal Year 1987 and Fiscal Year 1988

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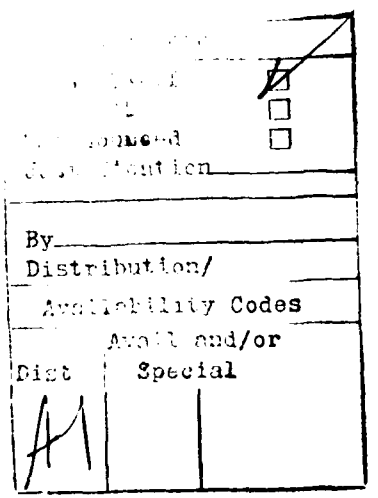

AIRCRAFT PROCUREMENT, NAVY

For construction, procurement, production, modification, and modernization of aircraft, equipment including ordnance, spare parts, and accessories therefor; specialized equipment; expansion of public and private plants, including the land necessary therefor, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway; [$11,175,678,000, to remain available for obligation until September 30, 1988: Provided, That $322,871,000 shall be available only for the procurement of nine new P-3C anti-submarine warfare aircraft: Provided further, That six P-3C aircraft shall be for the Naval Reserve.] $11,304,300,000 to remain available for obligation until September 30, 1989. *(10 U.S.C. 5012, 5031, 7201, 7341; Department of Defense Appropriation Act, 1986, as included in Public Law 99-190; additional authorizing legislation to be proposed.)*

Financing

The FY 1987 budget plan of $11,304,300,000 for the Aircraft Procurement, Navy appropriation is to be financed by new obligational authority. The FY 1988 authorization plan of $12,397,542,000 will also be financed by new obligation authority.

Program and Financing (in Thousands of dollars) REPORT 20 04 Feb 86

Identification code 17-1506-0-1-051		Budget Plan (amounts for PROCUREMENT actions programed)			Obligations		
		1985 actual	1986 est.	1987 est.	1985 actual	1986 est.	1987 est.
	Program by activities:						
	Direct program:						
00.0101	Combat aircraft	6,157,914	6,299,596	6,884,002	6,033,639	5,981,975	6,912,599
00.0201	Airlift aircraft	244,273	233,829	99,718	237,720	205,671	121,964
00.0301	Trainer aircraft	141,905	134,617	56,374	102,748	147,229	81,578
00.0401	Other aircraft	92,200	549,599	324,204	120,028	499,658	311,790
00.0501	Modification of aircraft	1,615,428	1,936,621	1,427,213	1,772,796	1,691,404	1,590,036
00.0601	Aircraft spares and repair parts	1,465,109	1,259,111	1,856,145	1,334,338	1,377,963	1,836,290
00.0701	Aircraft support equipment and facilities	679,969	762,305	656,644	628,029	701,703	581,802
00.9101	Total direct program	10,396,798	11,175,678	11,304,300	10,229,298	10,605,603	11,436,059
01.0101	Reimbursable program	7,687	1,000	1,500	28,017	16,096	1,500
10.0001	Total	10,404,485	11,176,678	11,305,800	10,257,315	10,621,699	11,437,559
	Financing:						
	Offsetting collections from:						
11.0001	Federal funds(-)	-15,285	-750	-1,000	-11,927	-750	-1,000
13.0001	Trust funds(-)	-7,396	-250	-500	-6,903	-250	-500
14.0001	Non-Federal sources(-)	-6			-9		
17.0001	Recovery of prior year obligations				-23,919		
	Unobligated balance available, start of year:						
21.4002	For completion of prior year budget plans				-2,888,431	-2,847,715	-3,402,694
21.4003	Available to finance new budget plans		-576,400			-576,400	
21.4007	Reprograming from/to prior year budget pla	-207,957					
22.4001	Unobligated balance transferred to other acc	43,000	576,400		43,000	576,400	
	Unobligated balance available, end of year:						
24.4002	For completion of prior year budget plans				2,847,715	3,402,694	3,270,935
24.4003	Available to finance subsequent year budge	576,400			576,400		
25.0001	Unobligated balance lapsing	104,157			104,157		
39.0001	Budget authority	10,897,398	11,175,678	11,304,300	10,897,398	11,175,678	11,304,300
	Budget authority:						
40.0001	Appropriation	10,903,798	11,175,678	11,304,300	10,903,798	11,175,678	11,304,300
41.0001	Transferred to other accounts(-)	-6,400			-6,400		
43.0001	Appropriation (adjusted)	10,897,398	11,175,678	11,304,300	10,897,398	11,175,678	11,304,300
	Relation of obligations to outlays:						
71.0001	Obligations incurred, net				10,238,476	10,620,699	11,436,059
72.4001	Obligated balance, start of year				13,135,211	15,129,214	16,272,918
74.4001	Obligated balance, end of year				-15,129,214	-16,272,918	-18,135,334
77.0001	Adjustments in expired accounts				41,983		
78.0001	Adjustments in unexpired accounts				-23,919		
90.0001	Outlays				8,262,536	9,476,995	9,573,643

Object Classification (in Thousands of dollars)

Identification code 17-1506-0-1-051

		1985 actual	1986 est.	1987 est.
	Direct obligations:			
	Other services:			
125.002	Purchases from industrial funds	89,031	23,586	25,484
126.001	Supplies and materials	1,337,505	1,768,925	1,767,034
131.001	Equipment	8,802,762	8,813,092	9,643,541
199.001	Total Direct obligations	10,229,298	10,605,603	11,436,059
	Reimbursable obligations:			
226.001	Supplies and materials		4,160	1,500
231.001	Equipment	28,017	11,936	
299.001	Total Reimbursable obligations	28,017	16,096	1,500
999.901	Total obligations	10,257,315	10,621,699	11,437,559

Budget Activity 1: Combat Aircraft

(In Thousands)

FY 1988 Estimate - $7,872,339
FY 1987 Estimate - $6,884,002
FY 1986 Estimate - $6,299,596
FY 1985 Actual - $6,157,914

Purpose and Scope of Work

Navy and Marine Corps combat aircraft are procured under this budget activity. These aircraft include fixed-wing and rotary configurations and are grouped generally into the categories of attack, fighter, and anti-submarine warfare. In addition to these general categories, aircraft which directly support combat operations in specialized missions, such as aerial assault, command and control, search and rescue, reconnaissance, observation, electronic warfare, airborne mine countermeasures, vertical onboard delivery and early warning are also procured in this budget activity. Funds are budgeted to procure fully equipped aircraft, including engines and avionics equipment, special ground support and training equipment, and technical publications.

Advance procurement funds are also included to finance long lead time effort, materials, and equipments for the following year program, as well as for multiyear procurement of the F/A-18 and CH/MH-53E airframe.

Justification of Funds

Funds for procurement of twelve different combat aircraft models, including two attack, one fighter, one strike fighter, one vertical take off and landing (VTOL), four helicopter, one patrol, one electronic warfare and one early warning type are either budgeted in FY 1987 or requested for authorization in FY 1988. Funds are also included in this budget request for FY 1987 advance procurement requirements for aircraft scheduled for procurement in FY 1988 and for multiyear procurement. The amounts shown below finance: (1) aircraft procurement; (2) advance procurement which is justified separately at the end of the budget activity; and (3) aircraft initial spares and repair parts which are budgeted and justified in budget activity 6.

A-6E/F (Attack) INTRUDER

(Dollars in Millions)

	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	11	278.9	12	617.3
Advance Procurement		80.0		113.5
Initial Spares		31.2		70.4

The A-6E is a highly effective attack aircraft. It is equipped with the Target Recognition Attack Multisensor (TRAM) system which gives the A-6E the capability of very accurate night/all weather delivery of nuclear and non-nuclear weapons as well as a night surveillance and identification capability. The A-6F is an improved version of the A-6E which incorporates improvements in reliability, performance and survivability through improved avionics and propulsion.

A-6E/F (Attack) INTRUDER cont'd

The A-6F incorporates the following improvements: a high resolution radar for improved standoff targeting, higher thrust engines, modern digital avionics, and minor airframe changes. Pilot production begins in FY 1988 with full production scheduled for FY 1990. The FY 1987 request continues procurement of tactical attack aircraft for the Navy and Marine Corps. In FY 1988 authorization of $617.3 million is requested for procurement of twelve of the upgraded A-6F aircraft.

EA-6B (Electronic Warfare) PROWLER

	(Dollars in Millions)			
	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	12	417.7	12	429.0
Advance Procurement		22.0		22.3
Initial Spares		10.5		9.4

The carrier-based EA-6B is an advanced electronic warfare aircraft which provides protection to Navy strike aircraft by jamming enemy radar-controlled weapons. Funding of $417.7 million for twelve aircraft is requested in FY 1987, and authorization of $429.0 million is requested for twelve more in FY 1988. This continues the procurement of modern tactical EW aircraft for the Navy and Marine Corps.

AV-8B (Attack) HARRIER

	(Dollars in Millions)			
	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	42	623.3	42	776.3
Advance Procurement		77.0		80.4
Initial Spares		61.6		48.8

The AV-8B is an improved vectored thrust V/STOL aircraft based on the AV-8A concept and the Pegasus 11 engine which has up to twice the range or payload of the older HARRIER. It combines aerodynamic improvements with a new stability augmentation system to reduce pilot workload and incorporates the Angle Rate Bombing System for increased weapon delivery accuracy, thus providing a more capable and reliable light attack aircraft. The AV-8B meets the Marine Corps' requirement for a light attack aircraft which can operate from austere forward sites in direct support of ground forces.

The FY 1987 request of $623.3 million is for 42 aircraft, and authorization of $776.3 million is requested for procurement of 42 aircraft in FY 1988.

F-14A/D (Fighter) TOMCAT

	(Dollars in Millions)			
	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	15	541.1	12	758.7
Advance Procurement		127.7		178.4
Initial Spares		27.1		25.6

F-14A/D (Fighter) TOMCAT cont'd

The F-14A is a high performance, fleet air defense/air superiority fighter. It is a two-place, tandem seat, variable sweep wing, supersonic, carrier-based airborne weapons system. The F-14A has visual attack and all-weather capability to deliver PHOENIX and SPARROW missiles using the AN/AWG-9 weapons control system. It also employs the M-61 gun and SIDEWINDER missiles for close-in air-to-air combat. FY 1986 and subsequent F-14A+ aircraft will incorporate the new General Electric F-110-GE-400 engine selected by the Secretary of the Navy to replace the TF-30 engine. This is an interim configuration. The SECNAV selection was based on the Air Force competition. Procurement of the F-14D will commence with the last seven aircraft in the FY 1988 buy. The F-14D will include the new GE engine, plus a new radar (APG-71) and upgraded avionic systems. The FY 1987 budget request includes $541.1 million for procurement of 15 F-14A+ aircraft, and authorization of $758.7 million is requested to procure 12 aircraft in FY 1988 (5 F-14A+ and 7 F-14D). This will continue an orderly Navy fighter modernization program and maintain fighter force levels.

F/A-18 (Strike Fighter) HORNET (MYP)

	(Dollars in Millions)			
	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	120	2,896.4	132	3,124.3
Advance Procurement		405.9		348.1
Initial Spares		104.4		122.5

The F/A-18 is a single-seat, twin-engine, carrier-based, multi-mission tactical aircraft that can be configured for fighter or attack missions. Employing the SPARROW and SIDEWINDER missiles and the M-61 gun, it will be a lower cost complement to the F-14 and will be the Navy's primary fighter for tactical air power projection. The F/A-18 will replace aging F-4 and A-7 aircraft. The total programed procurement of F/A-18 aircraft is 1,377, including 11 RDT&E aircraft. The FY 1987 budget includes $2,896.4 million for the procurement of 120 aircraft in FY 1987 for Navy and Marine Corps Squadrons, and authorization of $3,124.3 million is requested to procure 132 aircraft in FY 1988. Beginning with FY 1987 advance procurement funding, the F/A-18 airframe is budgeted for competitive multiyear procurement through FY 1992, which will buy out the program.

CH/MH-53 (Helicopter) SUPER STALLION (MYP)

	(Dollars in Millions)			
	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	14	189.0	14	202.2
Advance Procurement		30.9		22.5
Initial Spares		16.7		16.0

The CH-53 is a heavy transport helicopter for use by both the Marine Corps and the Navy. Marine Corps missions include the lift of heavy equipment and cargo from ship to shore in the amphibious assault, the lift of equipment and supplies during tactical operations ashore, and the tactical recovery of disabled aircraft and equipment. Navy missions include vertical onboard delivery (VOD) and Airborne Mine Countermeasures (AMCM). Production of the MH-53E variation of the CH-53

CH/MH-53 (Helicopter) SUPER STALLION (MYP) cont'd

commenced in FY 1985. The MH-53E will have significantly enhanced AMCM capability over the presently deployed RH-53D. AMCM-associated improvements will also enhance the aircraft's capability to perform utility and special missions by significantly increasing range and navigation capability. Several MH-developed aircraft improvements are also being incorporated in the CH version beginning in FY 1986. Budget authority is requested for 14 helicopters at a cost of $189.0 million in FY 1987, and authorization of $202.2 million is also requested for the procurement of 14 helicopters in FY 1988. The CH/MH-53 airframe is a multiyear procurement, beginning with the FY 1985 advance procurement for the FY 1986 lot and continuing through FY 1989 at a savings of $102.9 million.

V-22 (VTOL) OSPREY

	(Dollars in Millions)			
	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Advance Procurement		-		103.5

The V-22 Osprey is a Department of the Navy procurement of a tilt-rotor, vertical take off and landing aircraft for Joint Service application. The V-22 program will provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the combat search and rescue (CSAR) needs of the Navy, and the special operations needs of the Air Force. Although not a participant in the development of the V-22, the Army has stated that the USMC medium lift version will be procured by that Service. The V-22 will replace the CH-46 in the Marine Corps, the HH-3A in the Navy, and supplement HH-53, HH-60 and C-130 in the Air Force. The total procurement quantity of 913 aircraft provides 552 for the Marine Corps, 50 for the Navy, 80 for the Air Force, and 231 for the Army. Of the 60 aircraft procured through FY 1991, 52 are USMC configured and 8 Navy configured. Authorization is requested for advance procurement funding totalling $103.5 million in FY 1988 for procurement of 18 aircraft in FY 1989.

AH-1T (Helicopter) SEA COBRA

	(Dollars in Millions)			
	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	-	36.2	-	3.2
Initial Spares		1.0		3.9

The AH-1T helicopter is an improved version of the Marine AH-1J, which incorporates an uprated twin-pack engine (T700-GE-401) for increased performance, reliability and hot day performance. It has a TOW missile capability, a 20mm nose-mounted turret gun, a wing stores armament management system for selective release of externally carried weapons and a HELLFIRE missile system. The improved SEA COBRA is 58 feet in overall length and the rotor diameter is 48 feet. Maximum take-off weight is 14,000 pounds. The AH-1T mission is escort and protection of troop assault helicopters, landing zone preparation immediately prior to the arrival of assault helicopters, landing zone fire suppression during the assault phase, and fire support during ground escort operations. $36.2 million is requested for support requirements in FY 1987 and $3.2 million is requested for FY 1988.

SH-60B (Anti-Submarine Warfare Helicopter) SEAHAWK

	(Dollars in Millions)			
	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	17	199.7	6	131.3
Advance Procurement		21.1		22.1
Initial Spares		14.1		5.0

The SH-60B SEAHAWK is the air sub-system of the Light Airborne Multi-Purpose System (LAMPS) MK III ship/air weapon system. LAMPS MK III is a computer integrated ship/helicopter system that increases the effectiveness of combatants for Anti-Submarine Warfare (ASW). The helicopter provides a remote platform for deployment of sonobuoys and torpedoes, processing of acoustic and Magnetic Anomaly Detection (MAD) sensor information, and an elevated platform for radar and electronic warfare support measures (EWSM). The ship provides sensor processing, command and control, integration of LAMPS information gained from other sensors, the landing and traversing system, visual landing aids, and maintenance and support facilities for the aircraft. SH-60B secondary missions include Anti-Ship Surveillance and Targeting (ASST), search and rescue (SAR), vertical replenishment (VERTREP), medical evacuation (MEDEVAC) and communications (COMM) relay. The SH-60B carries a crew of three, approximately 2,000 lbs of mission avionics, and has provisions for sonobuoys and MK-46 torpedoes. The SH-60B has a mission gross take-off weight of about 20,000 lbs. Budget authority of $199.7 million in FY 1987 is requested for the procurement of 17 helicopters, and authorization of $131.3 million is requested for procurement of 6 helicopters in FY 1988.

SH-60F (Helicopter) CV ASW HELO

	(Dollars in Millions)			
	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	7	138.8	18	247.7
Advance Procurement		29.4		30.6
Initial Spares		11.2		18.2

Funds totalling $138.8 million in FY 1987 are requested to procure seven upgraded aircraft carrier (CV) inner zone anti-submarine warfare helicopters which are needed to modernize aging carrier assets. Authorization is requested for eighteen aircraft and $247.7 million in FY 1988.

P-3C (Patrol) ORION

	(Dollars in Millions)			
	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	9	312.4	9	290.6
Advance Procurement		93.2		22.1
Initial Spares		8.6		8.9

The P-3C aircraft is a land-based, four-engine, turboprop patrol aircraft. Its primary mission is anti-submarine warfare (ASW): to detect, classify, track, localize, and destroy submarines; to conduct long range barrier patrols, to escort convoys, and to conduct hunter-killer operations in all weather conditions. Secondary missions are aerial mining, maritime surveillance, shipping destruction, and intelligence collection.

The P-3C ASW systems include data processing, radar, infrared detection set (IRDS), HARPOON, sonobuoy referencing system (SRS), electronic support measures (ESM), and magnetic anomaly detection (MAD) equipment. The tactical system includes integrated displays and an inertial doppler navigator. The central digital computer has the data handling capacity and flexibility to thoroughly integrate sensor, display, navigation, communications, and armament equipment information. Budget authority of $312.4 million is requested for nine aircraft in FY 1987, and program authorization of $290.6 million is requested for nine aircraft in FY 1988.

E-2C (Early Warning) HAWKEYE

	(Dollars in Millions)			
	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	6	286.5	6	322.3
Advance Procurement		24.1		26.0
Initial Spares		24.7		25.9

The E-2C is a carrier-based airborne early warning/command and control system designed for fleet air defense. Additionally, it provides the battle group commander with a strike control and surveillance capability. The E-2C has the same airframe as earlier models but is equipped with new avionics equipment, including a new radar antenna and passive detection system. This equipment provides an improved capability, including overland detection of air targets. A major feature of the system is the greatly enhanced reliability over previous models. All FY 1987 aircraft will be configured with the new T-56-A-427 engine. Six E-2C aircraft at a cost of $286.5 million are scheduled for procurement in FY 1987. Authorization is also requested for procurement of six E-2C aircraft at a cost of $322.3 million in FY 1988.

SH-2F (Helicopter) SEASPRITE

	(Dollars in Millions)			
	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	6	52.8		

The SH-2F is a two-place, twin-engine helicopter with a single main-lift rotor and anti-torque tail rotor. It is the air subsystem of the LAMPS MK I weapons system, deployed aboard FF1040, FF1052 and unmodified FFG-7 class frigates for anti-submarine warfare. The SH-2F has secondary missions that include Search and Rescue, medical evacuation, and communications relay. The FY 1987 budget includes $52.8 million for procurement of six SH-2F helicopters.

Advance Procurement

The FY 1987 budget request includes $911.3 million for advance procurement of material and effort for FY 1988 and for multiyear procurement associated with the F/A-18 and CH/MH-53E airframes. Authorization is requested for FY 1988 advance procurement requirements totalling $969.5 million in support of FY 1989 and multiyear procurement. An itemization of the requirements follows:

(Dollars in millions)	FY 1988		FY 1989	
Aircraft Model	A/C Qty	A. P. in FY 87	A/C Qty	A. P. in FY 88
A-6E/F	12	$ 80.0	18	$113.5
EA-6B	12	22.0	12	22.3
AV-8B	42	77.0	42	80.4
F-14 A/D	12	127.7	18	178.4
F/A-18 (MYP)	132	405.9	132	348.1
CH/MH-53 (MYP)	14	30.9	14	22.5
V-22	-	-	18	103.5
SH-60B	6	21.1	6	22.1
SH-60F	18	29.4	18	30.6
P-3C	9	93.2	9	22.1
E-2C	6	24.1	6	26.0

The advance procurement listed is required to ensure timely delivery of the planned FY 1988 and FY 1989 aircraft. The amounts budgeted for CFE items, engines and some major GFE items are required for long leadtime effort and material for the prime contractor and their vendors. This includes items such as castings, forgings, landing gear and production engineering requirements. For most GFE, requirements are calculated for each item of equipment, considering the planned aircraft quantity, production leadtime, and prime contractor installation leadtime (i.e., the amount of time the item is needed at the factory prior to aircraft delivery). Certain equipment, primarily avionics items, are budgeted as advance procurement to ensure meeting planned aircraft production schedules.

In addition to conventional advance procurement requirements, the F/A-18 advance procurement includes funds for competitive multiyear procurement of the airframe through FY 1992. Of the advance procurement funding in FY 1987, $226.2 million will fund FY 1988 procurement and the remaining $179.7 million will be for FY 1988 through FY 1992. The CH/MH-53E advance procurement funding also includes multiyear requirements through FY 1989.

Budget Activity 2: Airlift Aircraft

(In Thousands)

FY 1988 Estimate - $ 1,300
FY 1987 Estimate - $ 99,718
FY 1986 Estimate - $233,829
FY 1985 Actual - $244,273

Purpose and Scope of Work

This budget activity provides for the procurement of fleet tactical support aircraft needed to fulfill the Navy's airlift support requirements.

Justification of Funds

The FY 1987 request of $99.7 million is for 9 C-2 aircraft. This is the final increment of the multiyear procurement contract. In FY 1988, authorization is requested for C-2 line shut down and support funding.

C-2A (Greyhound) (MYP)

(Dollars in Millions)

	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	9	$99.7	-	$ 1.3
Advance Procurement		-		-
Initial Spares		3.7		-

The C-2A is a twin turboprop personnel/cargo transport type aircraft capable of all weather carrier operations. The internal payload configuration is variable, allowing combinations of passengers (28 maximum), medical evacuation litters (12 maximum), aircraft engines, repair parts, and other high priority cargo.

The C-2 aircraft mission is to provide rapid Carrier On-Board Delivery (COD) of fleet essential supplies, repair parts, and personnel to deployed carrier battle groups as required to sustain at-sea operations.

A total of thirty-nine aircraft are being procured by multiyear procurement contract. Budget authority for $99.7 million is requested in FY 1987 for the final procurement increment of nine aircraft. In FY 1988, authorization of $1.3 million is requested for line shut-down and support costs related to this program.

Budget Activity 3: Trainer Aircraft

(In Thousands)

FY 1988 Estimate - $370,802
FY 1987 Estimate - $ 56,374
FY 1986 Estimate - $134,617
FY 1985 Actual - $141,905

Purpose and Scope of Work

The Naval Air Training Command needs aircraft specifically designed for aircrew training in order to provide the Navy, Marine Corps, and Coast Guard with well trained and highly skilled pilots, navigators, and aircrew. Aircraft procured under Budget Activity 3 are used to train students in basic and advanced flying techniques, navigation, instrument flying and numerous other skills required before the transition to high performance fleet aircraft.

Justification of Funds

Advance procurement funds totalling $56.4 million are requested in FY 1987 to begin the T-45TS program. In FY 1988, authorization is requested for 12 T-45 aircraft and advance procurement funding to continue the program in the ensuing year.

T-45TS (Trainer) GOSHAWK

(Dollars in Millions)

	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	-	$ -	12	$340.4
Advance Procurement		56.4		30.4
Spares		-		8.2

The T-45A is a derivative of the Hawk aircraft, redesigned to provide the capability for carrier catapult takeoff and arrested landings.

The T45TS system will be used to train Navy and Marine Corps pilots in the operation of a jet aircraft in the 1990-2010 timeframe. T45TS is an integrated training system comprising aircraft, simulators, academics, and a training integration system. A total procurement quantity of 300 aircraft is planned. Simulators providing both instrument and operational flight training will be developed. Academics will consist of textbook materials, classroom aids, and a computer-aided instruction (CAI) system that provides an integrated curriculum of self-paced and classroom instruction. A Training Integration System (TIS) will be developed using existing hardware and software to provide automated planning, scheduling and tracking of training events in order to achieve required training efficiency. To begin production of this program advance procurement funding of $56.4 million is requested in FY 1987. Authorization of $340.4 million is requested for 12 T-45A aircraft in FY 1988.

Budget Activity 4: Other Aircraft

(In Thousands)

FY 1988 Estimate - $310,581
FY 1987 Estimate - $324,204
FY 1986 Estimate - $549,599
FY 1985 Actual - $ 92,200

Purpose and Scope of Work

Aircraft other than those associated with combat, airlift, and training missions are procured under Budget Activity 4.

Justification of Funds

The FY 1987 request of $324.2 million is for 3 E-6A aircraft as well as advance procurement for the FY 1988 E-6A program. Funding also is included for VH-60 support costs in FY 1987. In FY 1988 authorization is requested for 3 E-6A aircraft.

E-6A

(Dollars in Millions)

	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	3	226.6	3	$269.6
Advance Procurement	-	72.9	-	41.0
Initial Spares	-	29.9	-	31.8

The E-6A is the replacement for the EC-130 TACAMO aircraft. Its mission is to provide survivable communications connectivity between the National Command Authority and fleet ballistic missile submarines. In FY 1987 $226.6 million is requested for three E-6A aircraft. Authorization of $269.6 million is requested for procurement of three aircraft in FY 1988. Acquisition of a total of fifteen aircraft is planned including one procured with RDT&E,N funds.

VH-60

(Dollars in Millions)

	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Procurement	-	24.7	-	$ -
Advance Procurement	-	-	-	-
Initial Spares	-	-	-	-

The VH-60 aircraft will replace current executive transport aircraft in the Marine Corps HXM-1 Squadron. A variant of the H-60 helicopter, the VH-60 aircraft has the necessary power, space and weight to fully accomplish the executive transport mission on a long term basis. In FY 1987 funding of $24.7 million is requested to complete procurement of support requirements.

Budget Activity 5: Modification of Aircraft

(In Thousands)

FY 1988 Estimate - $1,320,982
FY 1987 Estimate - $1,427,213
FY 1986 Estimate - $1,936,621
FY 1985 Actual - $1,615,428

Purpose and Scope of Work

The Aircraft Modification program provides for improvements to operational capability, maintainability, reliability, and safety and/or extend the service life of Navy and Marine Corps aircraft

Justification of Funds

In order to fulfill inventory requirements, it has become mandatory to operate many older aircraft beyond their originally programed service life and update their weapon systems so that they remain capable of continued effective operation in new threat environments. To accomplish these two objectives, the Navy pursues service life extension and weapons modernization programs. These conversions often involve complex engineering changes which require a major production effort and are usually accomplished at a contractor's facility, with aircraft inducted into an assembly line for the conversion/modernization programs. A substantial portion of the funds requested in FY 1987 and FY 1988 are for modifications in this category.

The FY 1987 budget request and the FY 1988 authorization request also include funds for incorporation of other modifications intended to enhance the operational capabilities of in-service aircraft or their safety-of-flight, maintainability or reliability. Only essential modifications or changes which are necessary to satisfy the most urgent operational requirements are included in this budget request.

The Secretary of the Navy has instituted a management initiative to streamline the incorporation of modifications by phasing and grouping major changes into block upgrade programs by aircraft platform. Goals of the block upgrade initiative include greater configuration standardization, cost savings through more efficient, concurrent installation and procurement practices, and less aircraft down time.

Justification for the FY 1987 budget request and for the FY 1988 authorization is provided by a narrative summary which provides an overview of the budgeted modifications in each aircraft series. A "back-up" section containing a detailed description of most modifications in the budget request is provided separately in the Budget Backup Book for this appropriation. The installation cost of all FY 1980 and subsequent modification programs is budgeted in the Operations and Maintenance, Navy appropriation.

The following narrative summary highlights modification requirements by aircraft series and model.

A-3 Series Modification

The FY 1987 budget request includes one A-3 series aircraft modification, the Service Life Improvement Program (SLIP) ($1.5 million in FY 1987). The program includes identification and replacement/reinforcement of structural areas to insure continued safe operation of these aircraft.

A-4 Series Modification

$19.7 million in FY 1987 and $14.2 million in FY 1988 are requested for A-4 series aircraft modifications. The largest of these modifications, the Constant Frequency Generator ($7.0 million in FY 1987 and $5.1 million in FY 1988) will decrease maintenance and down time of the Constant Speed Drive System (CSD) and preclude shortages of this essential component.

$.7 million in FY 1987 and $.5 million in FY 1988 are requested for the AN/ALQ-162 countermeasures program which significantly increases aircraft survivability against radar-directed air defense systems. The funding included in the A-4 series provides for the purchase of airframe change kits; the systems are procured in the Common Electronic Countermeasure (ECM) equipment line. $.3 million in FY 1987 and $.2 million in FY 1988 are requested for airframe change provisions to accommodate the AN/APR-43 Radar Warning Receiver.

Other continuing reliability and maintainability modifications to the A-4 include the AN/APN-194 Altimeter modification, the AN/AJB-3 All Attitude Heading Reference System (FY 1987 ($2.1 million) and FY 1988 ($1.3 million)) and the Digital Air Data Computer System. The J-52-P-408 Safety and Readiness Improvement Program is the only new start in FY 1987 ($4.3 million requested in FY 1987 and $3.0 million requested in FY 1988). This upgrade planned for the P-408 will improve the availability of the engine and thus overall fleet readiness. The TA-4 J52-P-6 Safety and Readiness Improvement Program ($3.2 million in FY 1987 and $3.7 million in FY 1988) will provide similar improvements to the P-6 engine.

A-6 Series Modification

A total of $379.2 million in FY 1987 and $ 226.7 million in FY 1988 is requested for various A-6 modifications. The principal modification budgeted in FY 1987 is the A-6 Block Upgrade ($302.7 million in FY 1987 and $198.4 million in FY 1988). This major effort will provide a new composite wing, AN/ALR-67 aircraft provisions, digital fuel quantity/ vulnerability improvements, HARM missile launch capability, reliablity/maintainability improvements to the FLAPS/SLATS, and other essential modifications. The composite wing will provide an additional 8,800 hours of wing life. Incorporation of the AN/ALR-67 will provide detection and direction finding (DF) coverage over the entire known radar/missile frequency bands. Digital fuel quantity/vulnerability improvements offer increased fuel quantity indicator accuracy and will minimize potential fire hazards. HARM missile integration will provide an improved anti-radiation missile. Water intrusion problems, which have caused corrosion and system failure, will be corrected in the FLAP/SLAT improvements.

Authorization in FY 1988 is requested for a KA-6D Block Upgrade ($5.5 million) which consists of improved fire protection modifications, incorporation of the AN/ARC-182 Radio, and addition of the NAVSTAR Global Positioning System.

A-6 Series Modifications cont'd

Paramount among the continuing programs is the Target Recognition and Attack Multisensor (TRAM) program which provides the A-6E with improved capability for location and surveillance of opposing Naval Forces and countering of their operations during periods of darkness, allowing maximum night identification and 24-hour strike capability. $50.1 million in FY 1987 is requested for the final year of this multiyear procurement.

Other significant programs completing procurement in FY 1987 include the A-6E Weapon Control System Improvement and the KA-6D R&M Update. The Weapon Control System Improvement will simplify and consolidate weapon control system configurations by modifying the aircraft's computer for successful operation of all current weapons (SIDEWINDER, WALLEYE, etc.). The FY 1987 budget request includes $8.0 million in FY 1987 for this program. $5.5 million in FY 1987 is requested to finish the KA-6D R&M Update Modification. This program will bring the configuration of older tankers to the latest configuration and incorporates improvements to increase reliability and maintainability.

Continuation of three smaller A-6 modifications is requested in FY 1987 as well. $5.3 million in FY 1987 and $4.6 million in FY 1988 are requested for the Stand-off Air-to-Ground Weapons modification, a program which will provide for the use of enhanced WALLEYE II pods. Integration of the MAVERICK missile system will provide the A-6E with improved close air support ($6.6 million in FY 1987 and $4.1 million in FY 1988). Finally, $1.0 million in FY 1987 and $1.5 million in FY 1988 are requested to continue the Pylon modification, a program to update wiring harness to correct Electro-Magnetic Interference (EMI) problems and preclude pylon fires.

Authorization is requested in FY 1988 for the J-52-P-8 engine Safety and Readiness Improvement Program, ($7.3 million) which will reduce mean time between failure and increase flight safety. Authorization to continue the AN/AAS-33 TSP III Access Cover Maintenance Improvement program is also requested ($5.3 million).

EA-6 Series Modification

In the FY 1987 budget request and FY 1988 authorization request, $39.4 million and $63.4 million respectively, are included for EA-6 modifications. The sole new start modification in FY 1987 for the EA-6 series is the Block Upgrade ($22.7 million in FY 1987 and $14.9 million in FY 1988). By significantly improving the communication systems, improving the reliability and maintainability of the fuel quantity system, and adding HARM capability, the modification will bring the Improved Capability (ICAP II) aircraft up to the same configuration as FY 1986 production aircraft.

EA-6 Series Modification cont'd

Among the more significant ongoing EA-6 modifications, budgeted at $3.7 million in FY 1987 and $43.6 million in FY 1988, is the ALQ-99 pods modification. Included in the FY 1987 budget request is $11.7 million for the last year of the ICAP I to ICAP II Update Program. This effort will replace the current dead-reckoning Doppler navigation system to provide the necessary accuracy required for effective employment of the EA-6B weapons system. Also included in the update program are the AN/ASN-123 Signal Data Converter, a more reliable unit currently installed in production EA-6B aircraft, and the AN/AYK-14 computer. $1.3 million in FY 1987 is requested for the EA-6B Structural Improvement effort. Designed to increase the number of catapults and arrestments for selected EA-6B aircraft, a follow-on procurement is requested in FY 1988 ($4.9 million).

A-7 Series Modification

The only program requested for the A-7 series in FY 1987 is the I^2R MAVERICK Missile Provisions effort for which $.9 million and $10.4 million are requested in FY 1987 and FY 1988, respectively. MAVERICK will provide greater stand-off range than present conventional weapons' capabilities while providing a high probability of kills against surface targets during war-at-sea strikes and during close air support.

AV-8 Series Modification

All of the $1.5 million and $.4 million budgeted for AV-8 modifications in FY 1987 and FY 1988, respectively, is requested to start the Shipboard Inertial Alignment Capability program which will permit the aircraft to rapidly align its inertial navigation system when aboard ship and at shore facilities.

F-4 Series Modification

In the FY 1987 budget request and FY 1988 authorization request, $4.9 million and $1.8 million respectively are identified for F-4 series modifications. $1.8 million in FY 1987, is requested for the Follow on Structural Fatigue program which replaces selected fatigue-sensitive components to ensure safety-of-flight. $1.8 million is requested in FY 1988 to continue this effort. Other modifications include airframe provisions for the AN/APR-43 Radar Warning Receiver ($2.4 million in FY 1987) and the AN/ALQ-162 ($.7 million in FY 1987). Both systems are budgeted in the Common ECM equipment line.

RF-4 Series Modification

$1.4 million in FY 1987 and $.6 million in FY 1988 are requested for RF-4 series modification. Among the continuing programs is the Follow On Structural Fatigue effort for which $.2 million and $.6 million are budgeted in FY 1987 and FY 1988, respectively. By correcting known structural deficiencies, this modification will ensure that the RF-4B aircraft remains a safe, viable weapon system for the remainder of its service life. Also included in FY 1987 are funds for airframe change provisions for the AN/ALQ-162, $.8 million in FY 1987 and for the AN/APR-43, $.4 million in FY 1987. Both the AN/ALQ-162, which provides complementary jamming capability to the existing AN/ALQ-126, and the AN/APR-43 system, an update to the current AN/ALR-45(V) and AN/ALR-50(V) are budgeted within the Common ECM equipment line.

F-14 Series Modification

Budget authority of $187.3 million in FY 1987 and authorization of $119.7 million in FY 1988 are requested for F-14 modification programs. Of major importance is the F-14A Block Upgrade for which $149.4 million in FY 1987 and $76.0 million in FY 1988 are budgeted. Under this major modification, the F-110 engine will be retrofitted to provide a dependable engine which will have no stall-related throttle restrictions, thus increasing operability and performance. An improved radio system, the AN/ARC-182 will provide securable voice communications. The AWG-15 system, historically a reliability and maintainability problem, will be redesigned. Once updated, the problems of inadvertent jettison of missiles and auxilliary fuel tanks will be reduced and the system will have the growth capability neccessary to easily integrate future weapons. Finally, the program will include aircraft provisioning for ALR-67 incorporation.

Various deficiencies identified during aircraft fatigue tests will be corrected in the Structural Improvements Program and the Structural Fatigue modification. $4.2 million in FY 1987 and $6.2 million in FY 1988 are requested to continue the Weapons Rails Operational Improvements Program. $1.0 million each in both FY 1987 and FY 1988 will be necessary to continue the Vertical Fin Substructure reliability modification, a program which replaces aft nacelle frames and brackets. A smaller reliability and maintainability modification which is included in the FY 1987 request is the ongoing Wing Pivot Bearing Redesign ($.8 million each in FY 1987 and FY 1988).

$5.2 million in FY 1987 and $8.5 million in FY 1988 are requested for the Secure LINK-4A program. An operational capability enhancement, this modification will provide anti-jam protection for the digital link used for target data exhange between E-2C and F-14A aircraft. Another communications enhancement is the AN/ARC-182 Radio (HAVEQUICK), ($2.9 million in FY 1987 and $9.2 million in FY 1988) for installation on those F-14 aircraft which will not be modified under the Block Upgrade.

Finally, two other ongoing modifications budgeted within the F-14 are the MXU-611 Jettison Release program ($4.2 million in FY 1987 and $4.3 million in FY 1988) and the Modified Direct Lift Safety Control (Mod Dec) ($.3 million in FY 1987 and $.5 million in FY 1988). The Jettison Release modification will minimize the risk of cartridge blow out due to inadvertent firing of the MXU-611. The Modified Direct Lift Safety Control (MOD DLC) upgrades will increase pilot control during carrier approaches.

F-8 Series Modification

$.1 million in FY 1987 is requested for the RF-8G Configuration Update.

F-5 Series Modification

Funding for the only F-5 series modification, the Structural Fatigue modification, is requested in FY 1987 ($1.0 million and $2.6 million in FY 1987 and FY 1988, respectively). The program will replace or correct known fatigue-sensitive structural components.

OV-10 Series Modification

OV-10 Series modifications account for $67.5 million and $67.7 million of the total FY 1987 budget request and FY 1988 authorization request, respectively. $57.0 million in FY 1987 and $55.5 million in FY 1988 are requested to continue the OV-10 A to D Conversion effort which will bring those OV-10's that were not converted previously up to the latest configuration. Once modified, the OV-10D Night Observation System (NOS) aircraft provide the capability to locate enemy troops, artillery positions and armor under conditions of low visibility, night and masking. Additionally, the 30 aircraft to be updated will receive service life extension modifications. $10.3 million in FY 1987 and $12.2 million in FY 1988 are requested for this purpose. $.1 million in FY 1987 is requested for the Position Location Reporting System (PLRS).

F-18 Series Modification

The only modification funded in the FY 1987 budget request and FY 1988 authorization request ($5.9 million and $5.9 million, respectively) is for Correction of Discrepancies in delivered F-18 aircraft to correct discrepancies identified during testing.

H-46 Series Modification

$67.9 million in FY 1987 and $54.6 million in FY 1988 are requested for various H-46 modifications. The major new start modification programs are the H-46 Block Upgrades. The larger of the two, Block A, will enhance the mission capability of Marine CH-46E helicopters by providing additional fuel capacity and by incorporating a modern accurate self-contained navigation system. Survivability is improved by incorporating an automatic flotation system.

Navy CH-46A/D helicopters will be modified under the H-46 Block B Upgrade effort. Applicable elements of the Block A program, specifically the navigation and flotation systems, will be incorporated into the affected aircraft. The significant difference is the addition of crashworthy pilot seats for safety of flight considerations. Increased fuel capacity modifications will not be incorporated in the Block B Upgrade. To begin the program, $8.7 million is requested in FY 1987; $6.3 million is requested to continue in FY 1988.

H-46 Series Modification cont'd

Three programs that will complete in FY 1987 are the Safety, Reliability and Maintainability (SR&M) Update, Engine Air Particle Separators and the Engine Condition Control System. The S,R&M Update, will require $6.4 million in FY 1987. The Engine Air Particle Separators modification will retrofit a flight-proven erosion protection system that will provide a near term solution to foreign object damage ($9.8 million in FY 1987). The Engine Condition Control System, $2.4 million in FY 1987, is a safety improvement.

Continuing programs include the Helicopter Emergency Egress Lighting program and the Night Vision Goggles procurement. $1.1 million is requested in both FY 1987 and FY 1988 for the Helicopter Emergency Egress Lighting modification to assist in the escape of crew members after an emergency water downing. $2.8 million in FY 1987 and $12.3 million in FY 1988 are requested for Night Vision Goggles.

Finally, the Hydraulic Flight Control Closet Armor modification, a one year program, ($1.0 million) is budgeted in FY 1987.

H-53 Series Modification

In the FY 1987 budget request and FY 1988 authorization request, $22.6 million and $46.7 million, respectively, are identified for H-53 modifications. At present, tactical helicopter defenses are inadequate against Infra-red IR homing missiles. The AN/ALQ-157(V) is an IR Jammer that degrades the capability of the IR homing missile and provides continuous protection. $3.0 million in FY 1987 and $.4 million in FY 1988 are requested. $3.6 million and $8.0 million are requested for the Crashworthy Fuel System.

New, lightweight armor protection will significantly reduce ballistic vulnerability of the H-53 series while actually reducing weight. A modification to incorporate this armor is included in the FY 1987 request ($5.3 million in FY 1987 and $7.5 million in FY 1988). The Night Vision Goggles program will provide the appropriate equipment to permit low altitude helicopter operations in 25 to 75 percent of night conditions. For this effort, $7.9 million in FY 1987 and $13.6 million in FY 1988 are requested. Completion of the LTN-211 OMEGA/VLF Navigation System is planned, and $.9 million is designated for this effort in the FY 1987 submission.

Also continuing is the Selectable Strobe Lights safety change, $.4 million in FY 1987 and $.4 million in FY 1988. The AN/ARC-182(V) VHF/UHF Radio is a solid state system and is planned for incorporation in all Navy aircraft. $1.1 million in FY 1987 and $8.7 million in FY 1988 are requested to continue this modification. Finally, airframe provisions for the AN/APR-39 ($.4 million in FY 1987 and $.4 million in FY 1988) are requested. The AN/APR-39 system will be procured within the Common ECM equipment line.

Authorization is requested for two programs in FY 1988: Composite Tail Rotor Blades ($5.7 million); and the Position Location Reporting System ($2.0 million).

SH-60B Series Modification

$3.3 million in FY 1987 and $7.3 million in FY 1988 are requested for SH-60 series modifications to correct deficiencies.

H-1 Series Modification

The FY 1987 request, $58.4 million, and the FY 1988 authorization request, $56.0 million, include funding to continue several major H-1 series modifications. Of the amounts budgeted, $40.8 million in FY 1987 and $42.1 million in FY 1988 are requested for the H-1 Block Upgrade which will incorporate the T700-GE-401 engine and the Hellfire missile system in the AH-1T.

An improved cockpit system integrated with night vision goggles will improve tactical effectiveness of the H-1 series at low altitudes at night. Three programs reflecting night vision modifications for various types of H-1 aircraft are included in the FY 1987 budget. $3.7 million in FY 1987 and $1.3 million in FY 1988 are requested for Night Vision modifications to UH-1N aircraft; $2.0 million in FY 1987 and $1.9 million in FY 1988 are requested for AH-1J/T Night Vision modifications; and $.6 million and $.8 million in FY 1987 and FY 1988, respectively are requested for the HH-1K Night Vision program.

Navy UH-IN helicopters being used for Search and Rescue are currently restricted to daylight operations or night operations when the horizon is visible. To update these helicopters with a system that will allow night operations under all conditions, $3.4 million in FY 1987 is budgeted for the Automatic Hover Coupler modification. The system is currently being installed in SH-60B aircraft. Another modification for the UH-1 is the AN/APR-44 program ($2.0 million in FY 1987). This continuous wave warning receiver will enhance aircraft survivability in the modern threat environment. A safety modification included in the FY 1987 request is the Crashworthy Pilot Seats ($1.0 million in FY 1987 and $4.8 million in FY 1988). This modification will significantly enhance survivability in the event of helicopter crashes.

$5.0 million in FY 1987 and $5.1 million in FY 1988 are requested for the AH-1 Navigation System program. This modification will incorporate the AN-APN-217 doppler and associated cockpit instrumention to facilitate effective low level and night operations.

H-2 Series Modification

Modifications for the H-2 series total $4.2 million in FY 1987 and $49.5 million in FY 1988. The FY 1987 funding will cover completion of three programs. The current AC fuel quantity system has been a reliability problem, and the use of 60 gallon auxiliary fuel tanks has limited the time on station and combat radius of the SH-2F's ASW mission. To alleviate these problems, $1.7 million in FY 1987 is requested for the Fuel System and Auxiliary Fuel Tanks modification. Another program scheduled for completion in FY 1987 is the Emergency Egress Lighting modification ($1.6 million in FY 1987). Finally, the Relocation of the TSEC/KY-28/KY-58 effort also completes in FY 1987 ($.9 million).

H-2 Series Modification cont'd

Two FY 1986 programs are not funded in FY 1987 but authorization is requested to continue them in FY 1988. $2.9 million in FY 1988 are requested for the Torpedo Depth Control program. This airborne torpedo presetter will enable the crew to select/modify the operating mode and initial search depth parameters in real time as tactical information and the situation dictates. Substantial life cycle cost saving over the existing rotor blade system will be realized through the Composite Main Rotor Blade program ($11.2 million in FY 1988). The composite blades will be completely compatible with the existing rotor system and reliability will be improved through the elimination of corrosive materials.

Authorization is requested for the H-2 Block Upgrade in FY 1988 ($35.4 million). The program will include service life extensions, avionics updates, the addition of a TACNAV data link and a 99 channel receiver antenna. These changes are required in aircraft produced prior to FY 1982 to meet the threats of the 1990s.

H-3 Series Modifications

Of the $38.6 million in FY 1987 and $44.3 million in FY 1988 budgeted for the H-3 modifications, $13.2 million and $30.1 million are budgeted for the H-3 Block Upgrade in FY 1987 and FY 1988, respectively. The H-3 Block Upgrade will extend the Service Life of the SH-3 past the year 2000. This program includes extensive rework/replacement of dynamic components, degraded structural components, out-moded flight controls and instrumentation, unreliable emergency flotation gear, and a major rewiring of the aircraft electrical system.

$10.9 million in FY 1987 and $14.2 million in FY 1988 are requested to update the avionics of the executive mission (VH-3D) helicopters. These aircraft provide worldwide executive transportation for the President, Vice President, Foreign Heads of State and others as directed by the military office of the White House. Also supporting this mission is the VH-3D Main Gear Box Improvement.

Several programs are scheduled to complete in FY 1987. $5.1 million in FY 1987 is requested for AN/ASN-123 Tactical Navigation Set modifications. The present TACNAV system is unable to respond to current mission requirements due to inadequate computer memory. This modification will provide additional memory and increase the computer's processing rate. An enhanced MK-46/Advance Light Weight Torpedo Presetter will permit cockpit control of MK-46 and EX-50 launch parameters. $5.7 million in FY 1987 is requested for this modification. The VHF Communication and Navigation equipment ($1.4 million in FY 1987) will permit full communication with U.S. or foreign Civil Air Traffic Control and the U.S. Coast Guard. To obtain an additional 100 shaft horsepower per engine, $1.0 million in FY 1987 is requested for the conversion of T58-GE-10 engines to T58-GE-402 engines. This change will alleviate power problems currently being experienced by SH-3H helicopters and will enable the aircraft to hover at full mission weight.

EP-3 Series Modification

$47.5 million in FY 1987 and $48.6 million in FY 1988 are requested for the EP-3 Conversion in Lieu of Procurement (CILOP) program. Goals of the program include extension of the airframe's service life, achieving commonality of mission avionics configuration and reducing/stabilizing weight and balance.

P-3 Series Modificiation

Included in FY 1987 budget request and FY 1988 authorization request are $38.4 million and $87.4 million, respectively, for P-3 modifications. Of these amounts, $2.0 million in FY 1987 and $7.7 million in FY 1988 are associated with HARPOON related modifications. Provisions for the HARPOON Airborne Command and Launch System include pylon modification, wing wiring, inter-connecting cables and data processor, logic unit control panel and other equipment. Incorporation of two new capabilities into the P-3B/C AQA-7 acoustic processing system, the Triple Vernier and the DICASS improvements, is greatly needed to meet the submarine threat of the 1980s. The Triple Vernier will increase acoustic sensor recognition and classification capabilities, while an improved DICASS will provide and enhanced long-range, single sonobuoy firing capability which presently does not exist. $5.6 million in FY 1987 and $7.5 million in FY 1988 are requested for this program. IRDS (Infrared Detecting System), for which $.8 million in FY 1987 and $2.8 million in FY 1988 are requested, is an electro-optical surveillance system capable of recognizing and identifying surface targets including submarine periscopes and snorkels under night conditions. The system consists of night imaging sensors and associated electronics and display together with a video recorder.

Continuation of the ALR-66 program is also requested. The ALR-66 ESM (Electronic Sensor Monitoring) system is a state-of-the-art replacement for the ALD-2B which is obsolete and lacks the required sensitivity, frequency coverage and bearing accuracy for threat warning. Procurement of this system requires $8.7 million in FY 1987 and $19.8 million in FY 1988. Another continuing program is the Special Project Aircraft effort, budgeted at $5.5 million in FY 1987 and $6.7 million in FY 1988. The HF Simultaneous Operations (SIMOPS) program continues with $.4 million and $5.0 million being requested in FY 1987 and FY 1988, respectively. Through frequency filtering and modification to the aircraft communication switching matrix, this effort will permit independent operation of the two HF radios currently incorporated in P-3C aircraft. The AN/APS-137 radar, $.4 million in FY 1987 and $10.8 million in FY 1988, provides improved periscope detection and long range maritime surveillance. $.5 million in FY 1987 and $.6 million in FY 1988 are requested for BRU-14/A Bomb Racks, and $1.0 million in FY 1987 and $1.1 million in FY 1988 are requested for the Omnibus Reliability and Maintainability Improvements modification.

To improve the P-3C aircraft's ability to detect and counter surface/subsurface-to-air missiles and anti-aircraft gunfire, $6.2 million in FY 1987 and $13.0 million in FY 1988 are requested for the Survivability and Vulnerability program. By incorporating the AN/ALQ-156 active missile detection system and the AN/ALE-39 infra-red flare and chaff dispenser, the P-3C will have a self defense capability against infra-red and radar threats. The system will automatically dispense flares, chaff or both upon missile detection. Retrofit of AN/ARC-182 radios into the P-3 series and AN/ARC-187 UHF radios into P-3C aircraft, begun in FY 1986, continues in FY 1987. Both of these radio modifications are being funded under the UHF/VHF Communication Update program with $5.8 million being requested in FY 1987 and $11.0 million requested in FY 1988. Finally, the Solid State Syncrophaser modification which will replace the current vacuum tube engine syncrophaser with a solid-state model is also included in the FY 1987 budget submission ($1.5 million and $1.4 million in FY 1987 and FY 1988, respectively).

S-3 Series Modification

Modifications to the S-3 series aircraft require $215.4 million in FY 1987 and $151.5 million in FY 1988. The S-3 Block Upgrade ($188.5 million in FY 1987 and $151.2 million in FY 1988) improves Anti-Submarine Warfare (ASW) capabilities of the acoustic, Electronic Sensor Monitor (ESM) and radar subsystems, adds Electronic Countermeasure (ECM) and Harpoon missile capability and increases useful service life through a redesigned display generator unit and replacement of Shop Replaceable Assemblies (SRAs). Changes to the bomb bay decoder are planned and addition of an off-line on top position indicator for the sonobuoy reference system will improve mission capability.

Of the four ongoing programs requesting funding, three are being completed in FY 1987. $19.0 million in FY 1987 is requested for the Auxiliary Power Unit Replacement. $6.8 million in FY 1987 is requested for Forward Looking Infra-red Reliability Improvements (FLIR) which will provide an eight-fold increase in mean time between failure.

E-2 Series Modification

$41.4 million in FY 1987 and $57.7 million in FY 1988 are requested for E-2 modifications. The E-2 Block Upgrade consists of two separate efforts which improve the capabilities, safety and reliability of the E-2C weapon system under a preplanned product improvement program for a total of 80 aircraft. Block I ($37.3 million in FY 1987 and $28.7 million in FY 1988) upgrades the TRAC-A antenna, 10KVA emergency generator, microwave refractometer, pylon fixed fairing, passive detection system, altitude gyro, vertical control surface, and incorporates various safety changes. The TRAC-A antenna is the largest of the Block I modifications and with its associated interfacing hardware will permit the E-2C to keep pace with the radar jamming threat and increase the range of target detection. Block II which begins in FY 1988 ($18.8 million) includes procurement of the T-56-A-427 engine and improvements to various radar systems, recorder and control improvements, and retrofits JTIDS, CAINS ASN-139 stability augmentation and anti-jam antenna. The T56-A-427 engine replaces the presently installed T56-A-425 engine which will eliminate the existing Single Engine Rate of Climb deficiency which constitutes a hazard for hot day launches. This modification will provide improved cruise altitude and cruise speed as well as specific reductions in fuel consumption, increasing operating range and time-on station. Airframe changes will include modified cockpit indicators for fuel flow and turbine inlet temperature, a modified fuel flow transmitter, electrical wiring changes in the nacelle, oil tank modifications and cooling air system changes.

The Aircrew Emergency Egress modification, an essential safety change, ($3.4 million in FY 1987 and $3.6 million in FY 1988) will allow for easier emergency egress from the aircraft.

Two capability enhancement modifications that are included in the FY 1987 request are the PARKHILL KY-75 ($.3 million in FY 1987 and $.1 million in FY 1988) and the AN/ARC-182 radio ($6.1 million in FY 1988). The PARKHILL KY-75 increases the security of voice communications aboard the E-2C. The AN/ARC-182 is a new radio that provides secure voice communications and is planned for most tactical aircraft.

The Fuel Quantity Indicating System is a small modification primarily oriented towards improved safety and reliability. Funds requested are $.3 million in FY 1987 and $.4 million in FY 1988.

Trainer Aircraft Modification

$6.7 million in FY 1987 and $5.4 million in FY 1988 are requested for various modifications to trainer aircraft. The Trainer Aircraft line item includes modifications budgeted for the T-2, TC-4C, T-34, T-38, T-44, and TH-57 series aircraft. Within the account, $1.1 million in FY 1987 is requested for the AN/ARN-118 TACAN for T-2 aircraft. In addition, $1.2 million in FY 1987 and $.8 million in FY 1988 are requested for T-2 aircraft ARC-159 radios. A TC-4C Update modification is included in the FY 1987 request; $1.4 million in FY 1987 and $2.6 million in FY 1988 are requested. $1.2 million in FY 1987 and $1.0 million in FY 1988 are requested for FAA Configuration Update to bring various trainer aircraft up to FAA standards. Finally, $1.8 million in FY 1987 and $1.0 million in FY 1988 are requested for other small modifications including T-34C Cockpit Windshield, the T-34C Landing Gear Actuation System and the T-34C Maximum Operating Weight Improvement Program.

EC-130 Series Modification

Budget authority of $16.6 million in FY 1987 and authorization of $31.0 million in FY 1988 are requested for EC-130 series modifications. $2.4 million in FY 1987 is requested for the Mission Avionics modification. Goals of this program include expansion of the present capabilities of the EC-130 VERDIN receive and transmit terminal in accordance with the Minimum Essential Emergency Communication Network (MEECN) Master Plan.

The TACAMO Reliability Assessment Program (TRAP) has identified two equipments within the VLF-transmit link of poor reliability that require replacement. The first of these is the Dual Trailing Wire Antenna Group Improvement ($3.3 million in FY 1987) and the other involves modifications to the Power Amplifier/Coupler Group ($2.6 million in FY 1987).

Several new starts in the FY 1987 request include: the Survivable Time Standard ($3.4 million in FY 1987 and $7.8 million in FY 1988) which replaces the existing frequency and time standard with two crystal standards and one satellite receiver and the UNH-16 recorder ($1.8 million in FY 1987) which replaces the discontinued Army Cassette Audio Recorder with an audio recording system with greater reliability/maintainability which can be adequately supported. Funding is also requested for the Flight Deck UHF/VHF Radio ($1.6 million in FY 1987 and $1.2 million in FY 1988) and for the Teletype Keyer/Converter Group Replacement System ($.6 million in FY 1987).

Authorization is requested for three new starts in FY 1988. The largest among them is the Consolidated Very Low Frequency (CVLF) subsystem ($13.5 million) to replace current receive and transmit terminals. In addition to handling communication controls, the CVLF will disseminate Emergency Action Messages as part of the Minimum Essential Emergency Communication Network (MEECN). Other new starts include the Air Force Satellite Communication (AFSATCOM/MILSTAR) Terminal Update ($6.6 million) to procure replacement modems for the AFSATCOM terminals and the Multiple Satellite Access program ($1.9 million).

C/KC-130 Series Modification

In the FY 1987 budget request and FY 1988 authorization request, $6.9 million and $7.1 million, respectively, are budgeted for C-130 and KC-130 aircraft modifications. A continuation of the Avionics System Improvement Program (Phase II) will procure new VHF communications, navigation equipment and a modern TACAN. $2.6 million in FY 1987 and $1.6 million in FY 1988 are requested for this capability enhancement/reliability improvement. The third phase of the Avionics Update ($2.9 million in FY 1987 and $4.1 million in FY 1988) includes the incorporation or modification of the solid state propeller synchronization system, compass system, HF secure voice capability, combined altitude radar altimeter (CARA), engine instruments, flight detector, addition of the safety-related Ground Proximity Warning System and many other avionics equipments. Together, these changes will substantially increase safety, reliability and maintainability. $1.0 million in FY 1987 and $1.1 million in FY 1988 are requested for improvements to the Cargo Handling System. Finally, two safety related modifications, Strobe Lights and Emergency Exit Lights, are included ($.4 million in FY 1987 and $.2 million in FY 1988).

FEWSG Series Modification

The ability to accurately simulate the known and postulated Electronic Warfare (EW) characteristics and tactics of different threats for fleet training is a primary mission element of the Fleet Electronic Warfare Support Group (FEWSG) and its assigned aircraft and equipments. In support of this program, $17.2 million in FY 1987 and $5.6 million in FY 1988 are requested for FEWSG modifications. The largest program, the AN/ALQ-170 (V)2, will augment the AN/ALQ-170 (V)1 countermeasures simulator set with new Anti-Ship Missile simulators. Major components of the V2 simulators will be totally interchangeable with those of the basic AN/ALQ-170 (V1) and will expand and update the system's capability to cover state-of-the-art improvements in a particular threat or family of threats. To continue this effort, $10.4 million in FY 1987 is requested. To provide an Electronic Countermeasure (ECM) device that simulates threat defense ECM systems and several types of threat anti-ship missile seeker systems, $6.3 million in FY 1987 and $4.1 million in FY 1988 are requested for the AN/ALQ-167 and AN/AST-4 Pods.

The Pylon Wiring/Avionics update for the EA-4F aircraft is necessary to accommodate the existing missile seeking simulator and the new Generic Simulator ($.2 million in FY 1987 and $.2 million in FY 1988). $.3 million is being requested in FY 1987 with a follow-on of $1.3 million in FY 1988 to continue procurement of the C^3C^3M simulation devices.

Cargo and Transport Aircraft Modification

A total of $5.1 million and $5.5 million are requested in FY 1987 and FY 1988, respectively, for the Cargo and Transport Modification line item which includes modifications budgeted for C-1A, C-2, C-9B, C-131, and UC-12 aircraft.

$.1 million is required in both FY 1987 and FY 1988 to continue procurement for the C-131 Modernization (Safety, Reliability and Maintainability) program. Various updates and FAA mandated changes must be incorporated into these 1950 aircraft to bring them up to current flight and safety standards. $.8 million is requested for both FY 1987 and FY 1988 for the C-9 HF Communications Update.

The C-9 Service Standardization modification ($4.1 million in FY 1987 and $4.5 million in FY 1988) is requested in the FY 1987 budget request. This program incorporates standard avionics,communications and cargo handling systems into used DC-9 aircraft to retrofit them to C-9B configuration. In addition, the FAA Configuration Update ($.1 million in both FY 1987 and FY 1988) maintains configuration integrity and FAA certification for the C-9, UC-12 and CT-39 by incorporating Service Bulletin modifications that are applicable to Navy aircraft.

Various Modifications

$3.8 million in FY 1987 and $.2 million in FY 1988 are requested for the Various Modifications line item in the FY 1987 budget request. $.9 million in FY 1987 is included for the SKU-2/A Survival Kit which replaces the highly unreliable RSSK-7. The Helo Chemical/Biology/Radiology (CBR) program, a one year modification, requires $2.5 million in FY 1987. This modification will provide necessary electrical power and mounting brackets for the AR-5 CBR respirator.

The only new start in FY 1987, the A-7 Seat 4-Line Release, provides parachute steering capability. $.4 million in FY 1987 and $.2 million in FY 1988 are requested.

Power Plant Changes

This program funds procurement of a large number of primarily small dollar engine modifications. For this purpose, $2.7 million in FY 1987 and $11.6 million in FY 1988 are requested.

Miscellaneous Flight Safety and Operational Necessity Changes

The FY 1987 budget request and FY 1988 authorization request includes $.9 million and $.9 million, respectively, for safety related modifications. This program provides for the procurement of kits to correct flight safety and operational deficiencies which are revealed during fleet operations.

Common Electronic Countermeasure (ECM) Equipment

A total of $97.8 million in FY 1987 and $126.6 million in FY 1988 are requested for Common ECM equipment. The AN/ALQ-126B, consists of an updated ALQ-126A with improved reliability and performance against prevailing threat emitters. $46.1 million in FY 1987 and $21.6 million in FY 1988 are requested for this vital program.

The ALR-45 modification funds the retrofit of the CP-1293/ALR-67 computer/countermeasures and the IP-1276/ALR-67 azimuth display which have been re-designated the AN/ALR-45F(V). At a cost of $19.0 million in FY 1987, the AN/ALR-45F will provide a software reprogrammable analyzer, an alpha-numeric display of threat bearing weapons, craft, etc. and identification, and interface capability with the AN/ALQ-126B, the AN/ALE-39, and the AN/ALQ-162.

Three additional programs budgeted in the Common ECM Equipment line are the AN/APR-43, the AN/ALR-67 and the AN/ALQ-162 which are common equipments utilized on a variety of Navy aircraft. Airframe change provisions necessary to accommodate these equipments are budgeted in the applicable aircraft series line items. The AN/APR-43 is a radar warning receiver that provides enhanced countermeasures warning and direction finding capability beyond that currently available. $10.4 million in FY 1987 and $10.8 million in FY 1988 are requested for this system. An improvement in capability, reliability and maintainability, the AN/ALR-67 radar receiving set will provide detection and direction finding coverage over the entire known radar/missile frequency bands for types of emissions used for target tracking and missile control ($12.5 million and $68.4 million in FY 1987 and FY 1988, respectively). Finally, $.8 million in FY 1987 and $19.3 million in FY 1988 are requested for the AN/ALQ-162 Countermeasures Set, a system that provides complementary Defensive Electronic Countermeasures (DECM) jamming capability to the operational AN/ALQ-126 DECM jammer.

$9.0 million in FY 1987 and authorization of $6.5 million in FY 1988 are requested for the AN/APR-39 Improvement which will update the existing equipment by replacing the analog processor with a digital model, the current receivers and antennas to expand the frequency coverage, and the cockpit control panel.

Common Avionics Changes

$21.6 million in FY 1987 and $10.0 million in FY 1988 are requested for miscellaneous avionics changes. Of the total request, $8.6 million in FY 1987 and $4.3 million in FY 1988 are requested for the Digital Air Data Converter, a form, fit and function replacement for several unreliable and obsolete air data computers in the inventory. $2.3 million and $4.3 million in FY 1987 and FY 1988, respectively, are requested to procure additional AN/APX-76 sets to retrofit early production F-14 aircraft and outfit F-4 aircraft on a one-for-one vice the current one-for-two basis.

Replacement of a variety of radar altimeter sets (equipment that provides continuous indication of aircraft altitude), with a more reliable and accurate system is a prerequisite to safe aircraft operation. $2.0 million in FY 1987 is requested for the AN/APN-171 system to satisfy this requirement. A continuing program included in the FY 1987 budget is the AN/APN-154 Radar Beacon reliability improvement ($2.1 million in FY 1987 with a follow-on procurement of $1.4 million in FY 1988). The UHF Relay Pod provides an improved inter/intra battlegroup communications capability for the fleet. To complete this modification, $6.6 million is requested for FY 1987.

Budget Activity 6: Aircraft Spares and Repair Parts

($ in Thousands)

FY 1988 Estimate - $1,745,354
FY 1987 Estimate - $1,856,145
FY 1986 Estimate - $1,259,111
FY 1985 Actual - $1,465,109

Purpose and Scope of Work

APN Budget Activity 6 funds the procurement of the spare equipment and repair parts necessary to support Navy and Marine Corps aircraft procurement and operating programs. The budgeted funds provide for: (1) initial outfitting and pipeline quantities of reparable spares and repair parts for new and modified aircraft; and (2) buyout of depot level reparable spare parts from the Navy Stock Fund (NSF) by means of the aviation outfitting account in the year of delivery, and a small number of non-stock funded replenishment spares.

Justification of Funds

On 1 April 1981, Navy commenced a test of financing the procurement and repair of non-aviation Depot Level Repairable (DLR) components in the Navy Stock Fund. Prior to this time, procurement of these items was funded in either Weapons Procurement, Navy (WPN) or Other Procurement, Navy (OPN) and repair was funded on a "free issue" basis. Under stockfunding a "buyer/seller" relationship is established and users of non-aviation DLRs pay for what they requisition. The purpose of the test was to determine if readiness would be improved via better material support and economies achieved due to the "buyer/seller" relationship. To date, the test has been extremely successful; therefore, in attempt to attain similar benefits in aviation DLR material support, the Navy is expanding the test to aviation DLRs. The FY 1987 budget incorporates all funding realignments for this test expansion. The expanded test began in April 1985, and is to continue through FY 1988.

The FY 1987 budget request for aircraft spares and repair parts is $597.0 million higher than the amount funded in FY 1986. The increased request is primarily due to the requirement for funding a full year for the Aviation Outfitting Account in FY 1987 as opposed to a 6 months funding requirement in FY 1986. This caused an artificial "ramp" between FY 1986 and FY 1987. The following table depicts the FY 1985 through FY 1987 funding profile for the spares account:

($ in Millions)	FY 1985	FY 1986	FY 1987	FY 1988
Initial Spares and Repair Parts	$ 591.9	$ 558.4	$ 559.9	$ 590.1
Replenishment Spares and Repair Parts	873.2	700.7	1,296.2	1,155.3
Total Aircraft Spares and Repair Parts	$1,465.1	$1,259.1	$1,856.1	$1,745.4

INITIAL SPARES:

Initial spares requirements reflect the number, type and deployment of aircraft being procured and entering the

operating program. The only items being procured under the initial spares category are engines and spares for those equipments and parts which have been recently introduced and therefore have no adequate demand history. Funding requirements for engines and for major avionics and other equipments with a significant unit cost qualifying as initial spares are calculated on an item-by-item basis where possible, considering usage data, failure rates, and engineering estimates based on predicted usage for new items. Requirements for other initial spares and spare parts are determined on a statistical basis, using the same methodology used in calculating major spare equipment requirements.

The following table shows FY 1987 and FY 1988 Initial Spares and Repair Parts support requirements by aircraft model:

($ in Millions)

	FY 1987					FY 1988				
Aircraft Model	Aircraft Quantity	Spare Engines	Contractor Spares	PSE Spares	Total Initial Spares	Aircraft Quantity	Spare Engines	Contractor Spares	PSE Spares	Total Initial Spares
A-6E/F	11	26.7	2.7	1.8	31.2	12	22.7	46.9	.8	70.4
EA-6B	12	5.3	2.1	3.1	10.5	12	5.5	1.6	2.3	9.4
AV-8B	42	37.4	19.9	4.3	61.6	42	25.4	21.0	2.4	48.8
F-14A	15	17.4	8.5	1.2	27.1	12	11.0	14.1	.5	25.6
F/A-18	120	36.7	49.6	18.1	104.4	132	44.8	68.1	9.6	122.5
CH-53E	14	6.8	9.8	.1	16.7	14	8.9	7.0	.1	16.0
AH-1W	-	1.0	-	-	1.0	-	3.9	-	-	3.9
SH-60B	17	13.2	.2	.7	14.1	6	3.9	1.1	-	5.0
SH-60F	7	1.8	8.6	.8	11.2	18	1.1	14.2	2.9	18.2
P-3C	9	1.1	4.1	3.4	8.6	9	1.2	5.3	2.4	8.9
E-2C	6	.8	19.7	4.2	24.7	6	3.0	21.3	1.6	25.9
C-2	9	3.3	.2	.2	3.7	-	-	-	-	-
T-45	-	-	-	-	-	12	1.6	6.5	.1	8.2
E-6A	3	7.1	22.8	-	29.9	3	7.6	23.5	.7	31.8
ATE Spare Parts		-	-	46.2	46.2		-	-	33.9	33.9
CGSE Repair Parts 1/		-	-	20.1	20.1		-	-	15.7	15.7
Training Device Pts		-	24.5	-	24.5		-	42.5	-	42.5
Airborne Weapon Spares		-	13.9	-	13.9		-	1.7	-	1.7
Modification Spares					110.5					101.5
TOTAL		158.6	186.6	104.2	559.9		140.6	274.9	73.1	590.1

Totals may not add due to rounding.

1/ Supports equipment procured in B.A. 7.

Initial spares and repair parts are categorized as follows:

(1) Government Furnished Spare Aircraft Engines - (FY 1987 - $158.6 million; FY 1988 - $140.6 million).

Spare aircraft engine requirements are calculated on an actuarial basis to support the aircraft operating program with a confidence level of 80% to 90% that a spare engine will be on site and ready for issue when required by combat aircraft. Requirements are determined by developing a flying hour program for each type/model aircraft and applying against it engine repair and removal rates to determine total engine procurements. On hand and on order assets are deducted from this gross requirement to arrive at a net procurement requirement. Requirements are thus established for initial outfitting of shore sites and carriers and to fill maintenance repair/overhaul pipelines.

(2) Contractor Spares Support - (FY 1987 - $186.6 million; FY 1988 - $274.9 million)

Contractor furnished spares and repair parts are provided for support of new, sophisticated weapons systems or subsystems during their development and fleet introductory phases until either the Navy Support Date (NSD) or Material Support Date (MSD) is reached, at which time the Navy supply system assumes responsibility for providing all spares and repair parts. Contractor support is designed to preclude procurement of unnecessary or unstable spare parts before usage data is available or aircraft equipment design is frozen. Requirements are calculated by comparing the new weapon system with historical data for a similar/same aircraft and utilizing the Weapon System Planning Document (WSPD) which provides the site activation schedule.

(3) Peculiar Support Equipment (PSE) - (FY 1987 - $104.2 million; FY 1988 - $73.1 million)

The funding requested here provides for repair parts essential to the support (readiness) of PSE end items required for the ground testing, servicing, handling and maintenance of specific weapon systems and their sub-systems. These PSE end items require complete integrated logistic support (ILS), including repair parts, concurrent with delivery in order to adequately support the related weapon systems.

PSE spares funding in FY 1987 and subsequent years provides for contractor augmented support. Requirements are determined by the initial quantity of PSE end items procured, the complexity/cost of the end items, the number of sites to be supported, the proximity/inter-support relationship of shore-based sites, and the period of time between equipment introduction and material support date.

(4) Modification Spares - (FY 1987 - $110.5 million; FY 1988 - $101.5 million)

The investment program also includes procurement of initial reparable spares and repair parts to support modification programs financed under APN Budget Activity 5. Requirements include new procurement and/or the modification of spares and repair parts already in the inventory. Requirements are based on the corresponding elements being procured for the aircraft modification program.

REPLENISHMENT SPARES:

Total funding requested for all replenishment spares programs is $1,296.2 million in FY 1987 and $1,155.3 million in FY 1988. Most of the replenishment spares requirements are in the aviation outfitting account to buy aviation depot level reparable outfitting spares from the Navy Stock Fund. The establishment of the aviation outfitting account resulted from the decision to manage all aviation depot level reparables in the Navy Stock Fund as of 1 April 1985. The remainder of the replenishment spares program includes non-Navy Stock Fund Inventory Control Point reparable spares requirements managed by the Aviation Supply Office and the Ships Parts Control Center, and Naval Air Systems Command (NAVAIR) headquarters spares requirements.

The replenishment spares element of the budget funds the procurement of reparable components in support of all Naval aviation spares requirements subsequent to the end of the initial support period. The replenishment spares element of the budget is made up of:

($ in Millions)

	FY 1987	FY 1988
Inventory Control Point Support	$ 2.0	$ 2.1
Aviation Outfitting Support	1,264.5	1,131.4
Interservice Support	4.2	5.3
Executive Mission Helicopters	18.8	11.1
F-5/T-38 Aircraft	3.8	2.7
Miscellaneous Headquarters	2.9	2.7
TOTAL	$1,296.2	$1,155.3

The replenishment spares are categorized as follows:

(1) Inventory Control Point (ICP) Support - (FY 1987 - $2.0 million; FY 1988 - $2.1 million)

Spare reparable components are managed by the Aviation Supply Office and the Ships Parts Control Center, which have been assigned program support responsibility for specific aircraft/weapon systems. Spares requirements are calculated by an individual line item stratification technique. The Uniform Inventory Control Point (UICP) stratification requirements are computed utilizing DOD logistics guidance, Navy program planning data, and technical, procurement, and inventory data maintained by the ICP. During stratification, these components are evaluated in terms of inventory on hand and on order, demand experience, projected demand, and outfitting requirements.

(2) Aviation Outfitting Support - (FY 1987 - $1,264.5 million; FY 1988 - $1,131.4 million)

This account funds payment at time of delivery for all Navy inventory control point managed outfitting requirements which were previously budgeted (through the first half of FY 1985) as either initial spares or follow-on replenishment spares in the APN-6 account. These requirements will be procured by the Navy Stock Fund and

subsequently "bought out" by this account beginning 1 April 1986. This approach was taken to: a) improve material availability, b) improve asset management, and c) add financial flexibility between rework and procurement of assets. The benefits are an improved logistics support posture and a corresponding improvement in aircraft readiness due to flexibility in the stock fund to either procure new assets or repair existing assets as determined by creation of a buyer/seller relationship in the issuance and return of aviation reparable spares.

(3) Interservice Support (ISS) - (FY 1987 - $4.2 million; FY 1988 - $5.3 million)

Funds are required to reimburse the Army and Air Force for reparable material used during both in house (organic) and service administered commercial overhaul work of Navy aircraft engines, airframes and other reparable components. Material requirements are calculated by the Army and Air Force for the Navy's projected overhaul/rework program and are validated through negotiation between the Naval Air Logistics Center and Army/Air Force representatives.

(4) Executive Mission Helicopters (XM) - (FY 1987 - $18.8 million; FY 1988 - $11.1 million)

Replenishment spares support requirements for the VH-3D, VH-1N and VH-60A Executive Mission aircraft. The Executive mission provides a transportation and evacuation capability for the Chief Executive, Heads of State and other visiting dignitaries. Eleven VH-3D and six VH-1N aircraft operate from 1 primary site and two auxillary sites. Nine VH-60A aircraft are being procured in FY 1986 to replace the VH-1N aircraft at the end of FY 1989. These helicopters operate for extended periods of time from numerous other locations necessitating selected item packups. Material support requirements are calculated based on inputs from the operating squadron, the aircraft contractor and those peculiar requirements set forth by the Executive Branch. Executive Mission helicopters must have 100% spares support for repairable components. These components are procured so that a spare will be on hand when the component reaches half its projected service life.

(5) F-5/T-38 Aircraft - (FY 1987 - $3.8 million; FY 1988 - $2.7 million)

Funds are required for the procurement of reparable material support from the Air Force for 11 F-5E/F and 6 T-38A aircraft operating at 4 sites. Material requirements are developed by the weapon system manager and NAVAIR based on past spares usage, the projected flying hour program and the number of sites operating the aircraft.

(6) Miscellaneous NAVAIR Headquarters Support - (FY 1987 - $2.9 million; FY 1988 - $2.7 million)

This includes material support requirements for the Fleet Electronic Warfare Support Group (FEWSG), Project Beartrap, Project Churchplate and VH-3A aircraft support. Spares requirements for FEWSG, Project Beartrap and Project Churchplate are developed by the Naval Avionics Center (NAC) in conjunction with the operational activities, based on past usage and anticipated system changes. VH-3A spares requirements are developed by the fleet operational squadron and NAVAIR, using historical data to project future material requirements.

Budget Activity 7: Aircraft Support Equipment and Facilities

(In Thousands)
FY 1988 Estimate - $776,184
FY 1987 Estimate - 656,644
FY 1986 Estimate - 762,305
FY 1985 Actual - 679,969

Purpose and Scope of Work

The FY 1987 budget request of $656.6 million and the FY 1988 authorization request of $776.2 million provide continuing vital effort in the four following categories which support aircraft procurement programs:

(1) Common Ground Equipment, which provides funds for Automatic Test Equipment (ATE), Avionics Support Equipment (ASE), various aircraft systems trainers and training aids, the Engineering Data Management Information Control System (EDMICS), and other aircraft ground support equipment including Rapid Deployment Force requirements and Mobile Maintenance Facilities for Marine expeditionary forces.

(2) Aircraft Industrial Facilities, which provides calibration equipment for Navy standards and calibration laboratories. It also provides for capital improvements, modernization, and maintenance of government-owned, but contractor-operated, aircraft-producing industrial plants.

(3) War Consumables, which provides funds for auxiliary fuel tanks, air refueling stores, pylons, and ejector racks and for the modification of these equipments. The new procurement items are of a consumable nature and are related primarily to the number of sorties flown by combat and training aircraft.

(4) Other Production Charges, which provides funds for miscellaneous production support and testing services, aircraft cameras, various equipment for United States Coast Guard aircraft, and aircraft pods and instrumentation packages supporting tactical aircrew combat training and mobile sea range systems.

Justification of Funds

Funding requirements for FY 1987 and FY 1988 are outlined in the following table:

	(Dollars in Millions) FY 1987 Funding	FY 1988 Authorization
Common Ground Equipment	$538.6	$620.1
Aircraft Industrial Facilities	32.6	49.4
War Consumables	34.5	44.2
Other Production Charges	50.9	62.6
Total B.A. 7	$656.6	$776.2*

Common Ground Equipment - FY 1987 $538.6 million; FY 1988 $620.1 million

The FY 1987 budget plan for the Common Ground Equipment Program totals $538.6 million. The FY 1988 authorization request is $620.1 million. Funding for the various segments of this program is depicted below and described in subsequent paragraphs:

		FY 1987 Funding	FY 1988 Authorization
(a)	Training Equipment	$121.0	$129.8
(b)	Automatic Test Equipment (ATE)	162.2	195.3
(c)	Aircraft Common Support Equipment	87.6	109.3
(d)	Mobile Maintenance Facilities	14.8	18.0
(e)	Inventory Control Point (ICP) Managed SE	76.5	86.8
(f)	Headquarters Managed PSE	18.0	22.4
(g)	Gas Turbine Compressor Replacement	6.3	3.6
(h)	Avionics Support Equipment	34.4	38.0
(i)	Rapid Deployment Force/Maritime Prepositioned Ships	6.2	7.0
(j)	Aircraft Salvage Equipment	7.6	9.0
(k)	Engineering Data Management Information Control System (EDMICS)	3.9	.9
	Total Common Ground Equipment	$538.6*	$620.1

* Does not add due to rounding.

Training Equipment

The FY 1987 budget request is $121.0 million and the FY 1988 authorization request is $129.8 million. The Training Equipment sub-line item provides funds for acquisition of trainers, training equipment, training parts, GFE/GSE for training purposes, and modifications/changes relating to the above acquisitions. The procurements funded within the Training Equipment sub-line item are limited to: (1) training devices and equipment and related modifications for generalized training programs which provide skills common to more than one weapon system, (2) trainers for out-of-production aircraft, and (3) GFE in support of courses at the Navy Formal Schools. Training on out-of-production aircraft is dependent upon these funds for all acquisitions, specific trainer-peculiar changes, modification/modernization, user-generated changes and replacement. The Training Equipment subline item is broken into two major categories, General Training Equipment and Modification/Modernization of Trainers. The following tables display funding profiles within the Training Equipment subline item:

General Training Equipment

	(In Thousands)	
	FY 1987	FY 1988
Minor Training Aids and Devices	$ 1,300	$ 1,574
Air Traffic Control Trainers	27,943	30,294
"A" School Trainers	9,849	23,595
Landing Signal Officer	5,500	0
Laser Air-to-Air Gunnery Simulator	836	87
Air Combat Maneuvering Simulator	2,769	6,439
Physiological Trainers	2,004	1,155
Total General Training Equipment	$50,201	$63,144

Modification/Modernization of trainers requirements, including GFE for out-of-production weapon systems

Program	(In Thousands) FY 1987	FY 1988
A-3	$ 160	$ 2,106
A-4	230	300
A-7	1,693	1,622
C-2A	0	5,034
EC/C-130	3,012	3,420
F/RF-4	1,569	1,277
GFE for Formal Schools	3,260	3,500
H-1	982	933
H-2	0	7,394
H-3	14,628	7,304
H-46	2,060	2,448
CH/RH-53	1,363	1,147
OV-10	89	81
P-3A/B	12,908	12,817
S-3A	24,747	14,094
T-2	945	770
T-34	0	407
T-44	0	1,019
TA-4J	2,688	358
TH-57	510	579
Total Modification/Modernization of Trainers	$70,844	$66,610

ATE (Automatic Test Equipment)

The FY 1987 budget request includes $162.2 million for ATE and the FY 1988 authorization request includes $195.3 million for ATE. The ATE segment of the Common Ground Equipment budget line item was established to broaden this category of support equipment acquisition formerly limited to VAST (Versatile Avionics Shop Test). The ATE account funds the procurement of the MINI-VAST and Tailored MINI-VAST, as well as a family of module testers including the Hybrid Tester, the Digital Tester, the Electro-Optics System Test Set (EOSTS), the Radar Communications Tester (RADCOM) and the Navigation Set Test System to support Inertial Navigation Systems in the fleet, and two types of Electronic Warfare Test Sets, the Advanced EW Test Set (AEWTS) and the New EW Test Set (NEWTS).

The six-rack VAST-derived MINI-VAST was designed to accommodate the testing requirements of the advanced avionics systems in the F/TF/A-18A aircraft and other planned avionic systems which incorporate the latest electronic design technology. The new five-rack Tailored MINI-VAST will support the avionics systems of the SH-60B, F-14A, F-14D, S-3A, V-22, and CV Helo. MINI-VAST and Tailored Mini-Vast program objectives are: (1) to provide support as the principal avionics test equipment for F-18, TF-18, A-18, V-22, F-14D, S-3B, CV Helo and SH-60 weapons systems; (2) to maximize commonality with the VAST system; (3) to preclude the development and introduction of new special purpose test equipment, and provide a more cost effective, logistically common and technically superior standard testing system; (4) to reduce the number of avionics technicians required in the avionics shop; and (5) to reduce shipboard avionics support spare requirements.

Acquisition of the NAVAIR standard digital module tester, the Computerized Automated Tester (CAT), is planned to continue consistent with contractor test program development and Fleet support requirements. This tester satisfies the stringent testing requirements of digital shop replaceable assemblies (SRAs) from a broad range of avionic systems which require dynamic testing. The CAT is presently deployed at over thirty operational sites including 12 aircraft carriers. Additional units are required to outfit F-14, E-2, A-6, and A-7 fleet operating sites.

The Hybrid Test Systems (HTS) is required to conduct the complex testing requirements of hybrid (combined analog and digital) and pure analog modules. Acquisition is planned to continue for support of F/A-18, AV-8B and SH-60 sites and to replace obsolete, manual testers in a planned off-load program for A-6, EA-6, E-2, and F-14 modules. This tester complements the CAT by providing broad general-purpose support for SRAs.

The Navigation Set Test Station was originally developed to provide support for the AN/ASN-92 Carrier Air Inertial Navigation Set (CAINS) and to replace the 1960-era Peculiar Support Equipment (PSE) that had been acquired to support earlier inertial navigation systems. Design flexibility and growth potential have allowed expansion of the application of this versatile item of ATE. Continued procurement is required to optimize support of the AN/ASN-92, and future advanced INS systems such as the Laser Inertial Navigation Set.

The advanced concept of the Advanced EW Test Set (AEWTS) was developed in the 1980-82 timeframe to provide Intermediate level support for carrier-based EW systems. This test station, with dual-port capability, enables the computer and other station resources to be time-shared, thus allowing the testing of two (2) WRAs simultaneously. This technical approach was adopted to meet ship space reduction requirements by maximizing the use of test station assets. In addition, the RF power and digital testing capabilities will satisfy the most sophisticated present or planned EW systems testing requirements.

The New Electronic Warfare Test Set (NEWTS) is a semi-automatic intermediate maintenance test set used on various Tactical Air Electronic Warfare avionics Weapons Placeable Assemblies. The authorization request is to fulfill Naval Air Rework Facility, carrier (CV), Reserve and Contingency Support Package (CSP) deployment requirements.

The Electro Optical Systems Test Set (EOSTs) is a semi-automatic Intermediate level maintenance test set that provides fault isolation, verification and alignment of various Tactical Air Electronic Warfare avionics Weapons Replaceable Assemblies. The authorization request is to fulfill carrier (CV), Naval Air Rework Facility, and Naval Air Maintenance Training Detachment (NAMTRADET) requirements.

System modification is necessary to maintain technological currency, enhance support, adjust workload and incorporate necessary reliability and maintainability improvements in major, out-of-production items of Automatic Test Equipment (i.e., EOSTS and VAST). Modifications to EOSTS are necessary in order to provide for continued support of A-6, S-3, A-7, P-3, and OV-10 electro-optical systems without sacrificing operational readiness. Similarly, VAST stations, which currently support over 150 weapons replaceable assemblies in the S-3, E-2, F-14 and A-7 aircraft, require improvement and enhancement in order to remain capable of satisfying the more complex testing requirements of new modified airborne avionics.

Aircraft Common Support Equipment

The Aircraft Ground Support Equipment element under the Common Ground Equipment line item provides for the initial outfitting of Common Support Equipment under NAVAIR inventory and technical management. These Support Equipment (SE) end items are required for ground testing, servicing, handling, and maintenance of aircraft and their systems. SE items acquired under this budget line item include aircraft propulsion test systems, mobile air conditioners and generators, and aircraft handling equipment.

A comprehensive acquisition plan has been developed for each FY 1987 SE requirement item to: (1) ensure that the equipment is ready for procurement by the budget year; (2) to determine the type of procurement action to be initiated (multi-year, etc.); (3) verify the inventory objective, and; (4) ensure the consideration of required integrated logistic support elements.

The Support Equipment (SE) which will be procured are determined through one of the following processes:

1. The direct result of the SE RDT&E Program (these are items required to support advanced aircraft systems).
2. Reprocurement of current SE required to respond to meet outfitting shortages.
3. Improved versions of current SE required to support expanded airborne equipment capabilities or advanced airborne equipment (electrical servicing equipment, ground air conditioners, etc).
4. Major modifications of existing SE.
5. Equipment developed to improve the capability of the Fleet and/or to improve safety (aircraft towing equipment, non-destructive inspection equipment, etc).

To meet requirements in a timely manner, budget authority for $87.6 million in FY 1987 and authorization for $109.3 million in FY 1988 are requested.

Mobile Maintenance Facilities

Budget authority of $14.8 million in FY 1987 and authorization for $18.0 million in FY 1988 for Mobile Maintenance Facilities are requested. This program provides for the acquisition of mobile facilities and related equipment to support Marine Corps Expeditionary Force and Navy contingency/mobilization aircraft and weapon system maintenance operations. The concept is to provide rapid-response mobility by the use of relocatable maintenance shelters. Execution of the Marine Corps Aviation mission is dependent on a highly mobile and functionally independent aircraft maintenance support capability.

The basic equipments procured under this subline item are the container (Van), air conditioner, heat pump, 60-Hertz electric generator, running gear and static converter 60 Hz to 400 Hz. The Navy requirement is driven by the P-3C Contingency/Augmentation Mobile Maintenance Support System (C/AMMSS).

Inventory Control Point (ICP) Managed Support Equipment (SE)

ICP Managed SE funds the procurement of end items of Peculiar Support Equipment (PSE) for out-of-production weapon systems, and all Common Support Equipment (CSE) under the budget, procurement and inventory control of the Aviation Supply Office (ASO), Philadelphia, and the Ships Parts Control Center (SPCC), Mechanicsburg, PA. PSE and CSE end items are normally introduced into the Fleet thru NAVAIR development and initial procurement. When design is completed and procurement packages become available, the items are sent to ASO or SPCC inventory management to be funded under this sub-line. Currently, ASO manages some 10,500 individual repairable SE end items whereas SPCC manages some 500 items, primarily cryogenic and armament equipment. Most PSE items are assigned to ASO management from the outset. These items are associated with a weapon system and are recommended by the aircraft or airborne system contractor, reviewed and approved by the Navy, and assigned to ASO for procurement and inventory management.

The budget requirements for this element are categorized as follows:

a. New CSE required for site outfittings incident to deployment of new weapon systems or equipments.
b. Replacement CSE resulting from wear-out and attrition.
c. Increased quantities of CSE required for allowance augmentation.
d. Increased quantities for out-of-production aircraft and systems required due to changes in base-loading beyond original planning or changes in maintenance policy.
e. Replacement PSE due to attrition.

These SE end items are "principal" items managed by the ICPs with no demand or usage criteria, and require more selective management attention than do the ICP secondary items (spare and repair parts). Sample SE end items procured under this sub-line item include aircraft jacks, aircraft tow bars, hoisting slings, armament handling equipment and maintenance platforms.

To support this program, $76.5 million in FY 1987 and authorization for $86.8 million in FY 1988 are requested.

Headquarters Managed Peculiar Support Equipment

This budget subline provides funds to replace certain in-use Peculiar Support Equipment (PSE) assets that are now marginally effective due to obsolescence or to the unavailability of associated logistics support. Of late 1960 and early 1970 vintage, the applicable vendors no longer manufacture the PSE items or associated repair parts. Alternate sources are not available. As a consequence, a replacement item that is logistically supportable must be designed and produced. In addition, this subline provides completion of the design and initial production of (1) certain PSE items that for various reasons were not funded during the production phase of the weapon systems and (2) modification of PSE to extend its useful service life.

Budget authority of $18.0 million in FY 1987 and authorization for $22.4 million in FY 1988 is requested for this program.

Gas Turbine Compressor (GTC) Replacement

The FY 1987 budget requests $6.3 million and the FY 1988 authorization requests $3.6 million to finance the acquisition of additional T-62T-40LC-1 engines, and the support equipment necessary to support the quantities of engines procured. This new GTC equipment will replace low flow mobile airstaff units at all Navy/Marine Corps activities with a highly reliable, easily maintained airstart unit that provides compressed air for starting main aircraft engines. The newly designed unit will satisfy all of the Navy's airstart requirements except for the F-4 and F-14A+/D and be used at 60 shorebased activities and aboard all aircraft carriers.

Avionics Support Equipment

The FY 1987 budget request of $34.4 million and the FY 1988 authorization request of $38.0 million will provide for the acquisition of several common avionic equipment items: AN/USM-406(v) Countermeasures Test Set; AN/ASM-607(v) Memory Loader Verifer Test Set; AN/AWM-94 Bomb Rack Test Set, AN/AWM-90 Guided Missile Test Set; AN/AWM-92 A/C Weapons Control Set; Nuclear Weapons Release Test Set; AN/APM-XXX Radar Beacon Test Set; Programable/Read-only Memory (PROM) Test Set; TTU-205 C/E modification; and Combat Identification System Test Set.

The AN/USM-406(V) is an electronic warfare countermeasure test set used in organization-level maintenance support of a variety of EW equipment. The Memory Loader Verifier is a micro-processor controlled mass storage unit utilized to load and verify Operational Flight Programs into aircraft processor/computer units. The Swept Frequency Measurement Test Sets will provide the capability to troubleshoot RF Transmission lines and perform distance-to-fault measurements. The AN/AWM-94 Bomb Rack Test Set is an organizational level test set which is used to test aircraft weapon release systems. The test sets automatically execute a series of tests which validate the operational status of the equipment system under test and will identify the location of any faults detected. The AN/AWM-90 and AN/AWM-92 are intermediate-level test sets which provide capability to test and maintain bomb racks and missile launchers. The Nuclear Weapons Release Test Set has been qualified for fleet use for the first F/A-18A squadrons. This unit measures dynamic voltages, resistances, and current; conducts complete Aircraft Monitor and Control (AMAC) system analysis; does its own self-check; and performs nuclear station functional release checks. This set is the only means available of checking the unique signal generator circuitry required on modern nuclear-capable aircraft. It can also be programed to accommodate nuclear check-outs of all Navy aircraft with the use of the sixteen

independent programable modules already designed into the unit. The AN/APM-XXX provides rapid test at the organizational level of the Automatic Carrier Landing System (ACLS) requiring a single technician for operating. The test set will be state-of-the-art, portable (less than 25lbs.) and battery powered. It will combine both functions of the AN/APM 230B and SM658 into a single enclosure with greater accuracy, reliability, and ease of operation. The Combat Identification System Test Set is a new lightweight handheld test set which tests the operation of aircraft-installed transponder systems by means of detecting and analyzing radiated signals. This test set will be used to test transponder systems which are installed in all Navy and Marine aircraft and will replace the existing AN/APM-378 test set. This test set will be allocated in multiple quantities to every Navy/Marine Organizational level maintenance activity. The PROM Programer Test Set is required to support the many avionic systems and support equipments that contain the various types of PROMS (Programable Read Only Memory) programer. This programer will be used to load new or to change the information contained in existing PROMS and then to verify the new information.

The TTU-205 Pressure-Temperature Test Set is a portable test unit designed for both flight line and intermediate maintenance used in checking performance characteristics of aircraft airspeed, altimeter, and engine pressure ratio system. This test is also used for total temperature simulation and as a pitot-static reference source to provide the input test pressures required by the Standard Central Air Data Computer.

Rapid Deployment Force/Maritime Prepositioned Ships

The FY 1987 budget request of $6.2 million and the FY 1988 authorization request of $7.0 million will procure additional Support Equipment for upgrading Marine Amphibious Brigades 1, 2, and 3. This support equipment (SE) will support aircraft configuration changes, and replace/modernize superseded SE.

Aircraft Salvage Equipment

The budget request of $7.6 million in FY 1987 and the authorization request of $9.0 million in FY 1988 will provide for the replacement of existing NS-60 aircraft crash cranes which have been deployed for over 12 years aboard the Navy's CV class carriers, and the HCC-30/50 crash cranes which have been deployed for 13 years aboard LHA/LPH/LPD class ships. During this time, the weight and size of deployed aircraft have increased, such that they exceed the maximum lifting/mobility requirements of these cranes. Aircraft crash removal is seriously debilitated creating an unacceptable operational readiness impact. Further, the aging NS-60 and HCC 30/50 cranes have experienced declining reliability, maintainability and supportability which have seriously degraded their operational effectiveness. A conventional four-year multiyear production contract was competitively awarded in FY 1985 for 34 CV/AACC crash cranes with deliveries commencing in FY 1987.

Engineering Data Management Information Control Systems (EDMICS)

The FY 1987 budget request for EDMICS is $3.9 million and the FY 1988 authorization is $.9 million. The EDMICS program is designed to provide more timely and complete engineering data and drawings to the Naval Air Rework Facilities (NAVAIREWORKFACs) for support of weapons system, component maintenance and overhaul, and to the Aviation Supply Office (ASO) for competitive procurement support. The EDMICS program is structured in four phases with phases I, II, and III as in-house efforts at the Naval Air Technical Services Facilities (NAVAIRTECHSERVFAC). EDMICS Phases I through III provide the capability of automatically determining if requested drawings are contained in file, and, if requested, provide a complete printout of all lower level drawings associated with the drawings which have been requested. EDMICS Phase IV which is also funded in this budget line, will provide automated retrieval and reproduction of engineering data and drawings. The concept of Phase IV involves the electromechanical handling, munipulation, reduction, and electronic transmission of the actual graphic data (microfilm copy of the drawings). Since the primary reason reported by auditing agencies for non-competitive procurement at ASO is lack of technical data, acquisition of this equipment will alleviate this problem by providing rapid access to the massive technical data bank located at the Naval Air Technical Services Facility (NATSF), Philadelphia.

Aircraft Industrial Facilities - FY 1987 $32.6 million; FY 1988 $49.4 million

The FY 1987 budget request for Aircraft Industrial Facilities is $32.6 million and the FY 1988 authorization request is $49.4 million. These funds are required for the following categories of equipment:

	(Dollars in Millions) FY 1987	FY 1988
Calibration Equipment	$21.1	$34.9
Contractor Facilities	11.5	14.5
Total Aircraft Industrial Facilities	$32.6	$49.4

Calibration Equipment

The calibration program provides the fleet with a means to ensure that Support Equipment (SE) is operational and accurate. Calibration is the process of periodically comparing the performance of items of SE to that of equipment of higher accuracy and making adjustments to the SE equipments as required.

Calibration funds are used to procure the initial outfitting of calibration standards and ancillary equipment required to support SE. Items procured with these funds are used at approximately 100 fleet "I" level calibration activities, 30 NAVAIR calibration laboratories and annexes, five NAVAIR standards laboratories and the Metrology Engineering Center (MEC).

Standards for "I" level fleet calibration activities are used to expand capabilities, replace time-worn and obsolete equipment, improve performance, and reduce man-hour efforts. Standards procured for the depot level calibration and standards laboratories are used to automate and improve certain calibration procedures in order to reduce man-hour requirements and to expand calibration capabilities to additional laboratories.

Contractor Facilities

The contractor facilities program provides for capital maintenance, modernization, improvements, emergency repairs and fire protection for government-owned, aircraft-producing industrial plants and for replacement/restoration of government-owned production equipment in use on Navy programs. Facilities management contracts require that the government fund capital maintenance projects as required. These projects apply at Naval Weapons Industrial Reserve Plants (NWIRPs) at Bloomfield, Conn.; Dallas, Texas; Bethpage, New York; and St. Louis, Missouri.

This includes provisions for compliance with the Occupational Safety and Health Act of 1970, P.L. 91-596, and the Environmental Protection Act as implemented by DOD Instruction 5030.52, 28 April 1972.

War Consumables - FY 1987 $34.5 million; FY 1988 $44.2 million

The War Consumables program funds procurement of those airborne equipments which can be suspended, released, or jettisoned from aircraft. The FY 1987 and FY 1988 requests provide for procurement of the following items:

	FY 1987		FY 1988	
	Qty	Amt	Qty	Amt
Air Refueling Stores	100	$33.4	150	$43.0
Launcher Rack Retrofit		.5		.6
Production/Engineering Support		.6		.6
Total	100	$34.5	150	$44.2

Items are bought in this account to satisfy inventory objectives which are determined by such factors as the numbers and types of using aircraft, the mission of aircraft, and attrition and pipeline requirements.

Other Production Charges - FY 1987 $50.9 million; FY 1988 $62.6 million

The FY 1987 budget request for Other Production Charges is $50.9 million. The FY 1988 authorization request is $62.6 million. These funds will provide the following:

(a) $6.2 million in FY 1987 and $15.9 million in FY 1988 for Government-Furnished Equipment (GFE) production support which includes testing services, production data reviews, technical publications, repair of damaged or defective GFE, and procurement of Navy Stock Fund items necessary for fleet installation of technical directives (i.e., minor modification kits and other hardware changes).

(b) $4.8 million in FY 1987 and $5.7 million in FY 1988 for procurement of certain Navy avionics equipment for installation in Coast Guard aircraft.

(c) $8.6 million in FY 1987 and $7.2 million in FY 1988 for procurement of reconnaissance and other aerial cameras.

(d) $.8 million in FY 1987 and $2.0 million in FY 1988 for procurement of instrumentation packages used by aircraft participating in Mobile Sea Range exercises.

(e) $9.5 million in FY 1987 funding and $13.5 million in FY 1988 for pods for the Tactical Aircrew Combat Training System (TACTS).

(f) $21.0 million in FY 1987 and $18.3 million in FY 1988 for engine blade/vane support equipment.

COMPARISON OF FY 1986 PROGRAM REQUIREMENTS AS REFLECTED IN FY 1986 PRESIDENT'S BUDGET WITH FY 1986 PROGRAM REQUIREMENTS SHOWN IN FY 1987 PRESIDENT'S BUDGET

(In Thousands of Dollars)

	Total Program Requirements per 1986 Budget	Total Program Requirements per 1987 Budget	Increase (+) or Decrease (-)
Combat Aircraft	$ 7,048,040	$ 6,299,596	-$748,444
Airlift Aircraft	197,003	233,829	+ 36,826
Trainer Aircraft	165,104	134,617	- 30,487
Other Aircraft	458,400	549,599	+ 91,199
Modification of Aircraft	1,865,717	1,936,621	+ 70,904
Aircraft Spares and Repair Parts	1,463,662	1,259,111	- 204,551
Aircraft Support Equipment and Facilities	864,674	762,305	- 102,369
Reimbursable Program	5,000	1,000	- 4,000
TOTAL FISCAL YEAR PROGRAM	$12,067,600	$11,176,678	-$890,922

EXPLANATION BY BUDGET ACTIVITY

Combat Aircraft (-$748.4 million)

The changes in this budget activity are primarily associated with the following Congressional action including application of general reductions:

Program	Quantity	Amount
A-6E	+ 5	+$72.3
A-6E Adv. Proc.		+ 9.3
EA-6B		- 28.7
EA-6B Adv. Proc.		- 8.2
AV-8B		-124.1
AV-8B Adv. Proc.		- 3.5
F-14A		- 15.8
F-14 Adv. Proc.		- 29.0
F/A-18		-317.5
F/A-18 Adv. Proc.		- 66.5

Program	Amount
CH-53E	-$ 34.5
AH-1T	- 13.2
SH-60B	- 82.3
SH-60 Adv. Proc.	- 2.2
P-3C	- 7.0
P-3C Adv. Proc.	- 67.3
E-2C	- 21.2
SH-2F	- 9.0
	-$748.4

A proposed DD 1415 Reprograming Action within this budget activity changes the following items:

Program	Amount	Program	Amount
A-6E Adv. Proc.	-$ .8	SH-2F	-$ 3.3
EA-6B Adv. Proc.	- 1.0	SH-2F Adv. Proc.	+ 6.4
E-2C Adv. Proc.	- 1.3		

Airlift Aircraft (+$36.8 million)

Adjustments in this budget activity result from Congressional action adding 2 C-20A aircraft ($38.4 million) and application of general reduction to the UC-12B ($1.3 million) and the C-2A ($.3 million) program.

Trainer Aircraft (-$30.5 million)

Change in this budget activity was due to Congressional action reducing 19 T-34C aircraft for $25.8 million and application of the general reduction to the F-16 ADVERSARY aircraft of $4.7 million.

Other Aircraft (+$91.2 million)

Congressional changes in this budget activity include the addition of $105.6 million ($110.0 million less $4.4 million general reduction) for procurement of used aircraft for conversion to tankers and reductions of $12.0 million and $2.4 million to the E-6A and E-6A advance procurement accounts respectively toward the general Congressional reductions.

Modification of Aircraft (+$70.9 million)

Congressional action resulted in a net $70.9 million increase including application of general reductions. Specific adjustments by program are listed below:

Program	Amount	Program	Amount	Program	Amount
A-3 Series	-$ .5	H-53 Series	-$ 6.9	Cargo & Transport A/C Series	-$ .1
A-4 Series	- 6.7	SH-60 Series	- .1	EC-130 Series	- .5
A-6 Series	- 9.9	H-1 Series	- 5.3	C/KC-130 Series	- 1.5
EA-6 Series	- 8.4	H-2 Series	- 1.3	FEWSG	- .9
A-7 Series	-22.4	H-3 Series	- 5.2	Various	- 11.0
F-4 Series	- 1.3	EP-3 Series	- 1.6	Power Plant Changes	- .3
RF-4 Series	- 1.1	P-3 Series	+ 236.1	Misc. Flt. Safety	- .2
F-5 Series	- .1	S-3 Series	- 2.8	Comm. ECM Equip.	- 52.9
OV-10 Series	- 4.4	E-2 Series	- 15.2		+$70.9
F-18 Series	- 2.4	Trainer A/C Series	- .2		
H-46 Series	- 2.0				

Actions other than those reflected above include decreases in the OV-10 series due to the acceleration of the OV-10D Service Life Extension ($6.8 million) and rephasing of the A to D Conversion ($28.3 million) and increases in the A-7 series to initiate the I^2R MAVERICK airframe provisions ($9.2 million), in the AV-8 series primarily for acceleration of changes to the Digital Engine Control System ($6.1 million), in the F-4 series ($5.7 million) for AN/APR-43 and AN/ALQ-162 provisions repricing, in the F-14 series ($2.7 million) for various miscellaneous adjustments, in the H-46 series ($3.5 million) to accelerate procurement of Safety, Reliability and Maintainability (SR&M) kits, and finally in the Common Avionics line primarily for addition of HAVEQUICK ($7.9 million).

Aircraft Spares and Repair Parts (-$204.5 million)

The change in this budget activity results from a specific Congressional reduction of $138.5 million and application of $66 million of the Congressional general reduction.

Aircraft Support Equipment and Facilities (-$102.4 million)

The reduction due to Congressional action in this budget activity was $102.4 million.

Reimbursable Program (-$4.0 million)

The decrease in the reimbursable program reflects the shift of replenishment spares/depot level reparables procurement to the Navy Stock Fund (NSF). Since most sales are spare parts, the reimbursement and replacement of sales would involve the NSF rather than the Aircraft Procurement, Navy appropriation.

COMPARISON OF FY 1986 FINANCING AS REFLECTED
IN FY 1986 BUDGET WITH FY 1986 FINANCING AS
SHOWN IN FY 1987 BUDGET

(In Thousands of Dollars)

	Financing Per FY 1986 Budget	Financing Per FY 1987 Budget	Increase (+) or Decrease (-)
Program Requirements (Total)	$12,067,600	$11,176,678	-$ 890,922
Program Requirements (Service account)	(12,062,600)	(11,175,678)	(- 886,922)
Program Requirements (Reimbursable)	(5,000)	(1,000)	(- 4,000)
Less:			
Anticipated Reimbursements	5,000	1,000	+ 4,000
Reprogramming from prior year budget plans			
Unobligated balance available from prior year to finance new budget plans			
Transferred from other accounts			
Add:			
Unobligated balance available to finance subsequent year budget plans			
Transferred to other accounts			
Appropriation	$12,062,600	$11,175,678	- 886,922

EXPLANATION OF CHANGES IN FINANCING

The decrease in program requirements is the result of Congressional reductions of $886,922,000 from the request to the amount appropriated including distribution of general Congressional assessments of $516,300,000.

COMPARISON OF FY 1985 PROGRAM REQUIREMENTS AS REFLECTED IN FY 1986
PRESIDENT'S BUDGET WITH FY 1985 PROGRAM REQUIREMENTS SHOWN IN FY 1987 PRESIDENT'S BUDGET

(In Thousands of Dollars)

	Total Program Requirements per 1986 Budget	Total Program Requirements per 1987 Budget	Increase (+) or Decrease (-)
Combat Aircraft	$ 6,501,660	$ 6,157,914	-$343,746
Airlift Aircraft	246,206	244,273	- 1,933
Trainer Aircraft	141,160	141,905	+ 745
Other Aircraft	86,900	92,200	+ 5,300
Modification of Aircraft	1,711,763	1,615,428	- 96,335
Aircraft Spares and Repair Parts	1,534,496	1,465,109	- 69,387
Aircraft Support Equipment and Facilities	681,613	679,969	- 1,644
Reimbursable Program	8,000	7,687	- 313
TOTAL FISCAL YEAR PROGRAM	$10,911,798	$10,404,485	-$507,313

EXPLANATION BY BUDGET ACTIVITY

Combat Aircraft (-$343.7 million)

The FY 1986 Appropriation Act reduced Budget Activity 1, Combat Aircraft, by $394.1 million as follows:

(In Millions of Dollars)

A-6E	$- 4.7	C/MH-53E	$- 6.5
EA-6B	- 4.2	SH-60B	-49.3
AV-8B	-139.2	E-2C	- 7.3
F/A-18	-176.2	SH-2F	- 6.7

Total = $394.1

In addition, four DD 1415 reprograming actions yielded a net $49.5 million increase in this budget activity. $11.7 million was transferred from the SH-60 series modification account to the SH-60B production program for Penguin missile incorporation, a Congressionally directed effort. As a result of Congressional action of FY 1985 supplemental $55.0 million was reprogramed into the A-6E Advance Procurement line item to continue the A-6 Replacement Wing program. Two production programs contributed to the reprograming actions, the F-14A (-$6.5 million) and the AH-1T (-$.6 million). Also $6.4 million was reprogramed from the AV-8B program to Operations and Maintenance, Navy as part of the FY 1985 Supplemental Appropriation Act, and finally, $3.7 million went from A-6E Advance Procurement to Weapons Procurement, Navy for the Phoenix program.

Other increases accomplished through below threshold reprogramings include $9.9 million into the A-6E production program for the Replacement Wing Program; $9.3 million into the F-14A and $9.9 million into the F-14A Advance Procurement accounts for tooling, non-recurring engineering and long lead material associated with incorporation of the GE F-110 engine; $2.5 million into the CH/MH-53 Advance Procurement line item to cover additional GFE procurement necessary to support an accelerated aircraft delivery schedule, required for the multiyear procurement program; $.6 million into the AH-1T program for various minor cost adjustments; and $3.7 million into A-6E Advance Procurement for the rewing.

Decreases occurring in the Combat Aircraft budget activity include: -$14.7 million from the AV-8B program resulting from reduced support requirements and a favorable pound-dollar exchange rate; -$3.5 million from the CH/MH-53E program due to airframe and engine contract savings; -$7.3 million from the SH-60B production program resulting from savings in the Penguin incorporation effort and other favorable contract prices; and -$5.0 million from the E-2C production account and -$4.5 million from the SH-2F production line item attributable to airframe contract savings.

Airlift Aircraft (-$1.9 million)

An increase of $2.0 million in the UC-12B program has occurred because the airframe cost was higher than budgeted. A decrease of $3.9 million in the C-2 program was due to lower GFE and support requirements.

Trainer Aircraft (+$0.7 million)

An increase in the Adversary program for the airframe contract (+$1.9 million) was offset by a net decrease in the TH-57 program of $1.2 million. This decrease resulted from a $2.0 million reduction to partially fund the A-6E Replacement Wing offset by restoration of $.8 million subsequent to the DD 1415 reprograming.

Other Aircraft (+$5.3 million)

Funds were required in the KC-130T program to procure one visual system trainer.

Modification of Aircraft (-$96.3 million)

The FY 1986 Appropriation Act reduced Budget Activity 5 by $92.9 million. This reduction was distributed as follows:

(In Millions of Dollars)

A-3	.1	F-18	4.0	Trainer	.3
A-6	6.8	H-46	10.0	TH-57	.2
EA-6	.6	H-53	15.0	EC-130	3.2
A-7	1.1	H-1	8.2	C/KC-130	.7
AV-8	4.0	H-2	.2	Cargo	3.0
F-4	.4	H-3	.6	Various	.7
RF-4	.6	P-3	1.1	Power Plants	.1
F-14	1.5	S-3	2.5	Common ECM	18.4
F-8	.2	US-3	.1	Common Avionics	.7
OV-10	8.5	E-2	.1	TOTAL	92.9

Three DD-1415 reprograming actions also effected Budget Activity 5. $11.7 million added in the FY 1985 Appropriation Act for Penguin missile modifications was transferred to the SH-60B production program in Budget Activity 1, Combat Aircraft. Additionally, $34.8 million was reprogramed into the A-6 Series line item for the Replacement Wing retrofit effort. Several programs within Budget Activity 5 contributed to the Replacement Wing reprogramings for the A-6 Advance Procurement and A-6 Series including: the RF-4 Series, -$2.0 million; the OV-10 Series, -$2.1 million; the F-18 Series, -$1.7 million; the E-2 Series, -$6.0 million; the Power Plant Changes account, -$2.8 million; and the Common ECM Equipment line, -$35.0 million. In addition, $12.9 million was reprogramed from the P-3 Series Mod to Weapons Procurement, Navy for Phoenix. The net effect of DD-1415 actions on Budget Activity 5 was a $39.4 million decrease.

Additional decreases accomplished through below threshold reprograming actions total $41.9 million and include: -$4.7 million from the H-46 program due to savings in the Fiberglass Rotor Blade and AN/ALQ-157 (V) IR Jammer programs; -$26.1 million from the H-1 Series attributable to slippage in the H-1 Engine Retrofit; -$2.3 million from the US-3 line item following a transfer of execution responsibility for procurement of US-3 programs to the S-3 line item for administrative convenience; -$.2 million from the Safety account due to miscellaneous pricing adjustments; and -$8.6 million from the Common ECM Equipment line item reflecting a rephasing of the AN/ALR-45F, AN/APR-43 and AN/ALQ-162 procurements.

$77.9 million were reprogramed below threshold into various FY 1985 modification programs. In many instances, these increases were partially or wholly offset by the DD 1415 reprograming decreases or FY 1986 Congressional action delineated above. Specific programatic increases include: +$2.0 million into the A-3 Series to add the A-3B Configuration Update and NRA-3B to TRA-3B Conversion programs to meet force level requirements; $5.6 million into the A-4 line item to accelerate procurement of AN/ARC-159 Radios and AN/ARN-118 TACANs to economically complete procurement of these modifications; +$5.2 million into the A-6 account to cover additional Replacement Wing program financial requirements; +$1.3 million into the EA-6 Series to cover repricing of the ALQ-76/86 update modification; +$2.8 million into the A-7 account to accelerate procurement of the Engine Monitoring System budgeted within the TF-41 HELP effort and also for incorporation of E^2 PROM modifications to the HARM provisions program; +$1.4 million into the F-4 line item to continue the AWG-10A Obsolesence program; +$1.8 million into the RF-4 account for miscellaneous repricing; +$4.1 million into the F-14 Series to fund non-recurring start-up costs of the GE-F-110 engine retrofit modification; +$1.5 million into the OV-10 account to cover cost growths, particularly in the Navigation System program, identified subsequent to the line item's contribution to the A-6 Replacement Wing; +$7.9 million into the H-53 Series to cover increases in the Crashworthy Pilot Seats and Ground Proximity Warning programs; +$3.7 million in the H-2 Series to complete procurment of the ASN-123 TACNAV Set and AN/ARN-118 TACAN programs; +$1.6 million into the H-3 line item to cover repricing of the SH-3H/G/D SLEP program; +$16.4 million into the P-3 Series to increase funding for the classified Special Projects modification and +$1.4 million for repricing of the ALR-66; +$12.2 million into the S-3 account to cover a cost increase for the WSIP modification and to procure US-3 requirements in conjunction with S-3 procurements for administrative convenience; +$2.4 million into the Trainer Aicraft line item to procure AN/ARC-159 Radios, AN/ARN-118 TACAN systems, and CPU-66/A-24 Altitude Encoding Computer modifications for T-2 aircraft; +$1.5 million into the EC-130 Series to cover cost increases in the Mission Avionics modification; +$4.3 million into the Common Avionics line item to initiate the urgently required UHF Relay Pod program; and finally, a total of +$.8 million into the AV-8 Series, F-5 Series, E-2 Series and FEWSG Series for miscellaneous price adjustments.

Aircraft Spares and Repair Parts (-$69.4 million)

The changes in this budget activity consist of a decrease in initial spares requirements of $80.7 million and an increase to replenishment spares of $11.3 million for a net decrease of $69.4 million.

Decreases in initial spares occurred because of decreased or rephased requirements in the following: modification spares (-$25.6 million); peculiar support equipment spares (-$6.5 million); Aviation Supply Office managed Navy Spares (-$15.4 million); AV-8B spare engines (-$9.6 million); EA-6B spare engines (-$1.1 million); SH-60B contractor parts (-$10.2 million); training devices spares (-$9.0 million); F/A-18 contractor parts (-$2.5 million); AV-8B contractor parts (-$0.8 million). Of these decreases, $6.5 million went on a DD 1415 reprograming action to the Weapons Procurement, Navy appropriation.

Increases of $11.3 million are due to acceleration in requirements in replenishment spares determined by the Aviation Supply Office (ASO).

Aircraft Support Equipment and Facilities (-$1.6 million)

Congressionally directed reductions to the Aircraft Industrial Facilities account (-$3.5 million) and reductions related to the A-6 Replacement Wing program (-$16.1 million) and Phoenix program in Weapons Procurement, Navy (-$2.0 million) coupled with a $4.1 million decrease to the Other Production Charges account due to slippage in the U.S. Coast Guard's Radar program yielded a total decrease of $25.7 million. Common Ground Equipment increased by $8.0 million for procurement of CAT III (D) digital module testers and War Consumables increased $5.8 million for procurement of BRU-41/A and BRU-42/A retrofit kits and for the LAU-7A missile launcher improvement. Finally, $10.3 million was restored to the Aircraft Industrial Facilities account subsequent to its contribution to the A-6 Replacement Wing and Phoenix reprogramings.

Reimbursable Program (-$.3 million):

The decrease in the reimbursable program reflects actual orders totalling $14.7 million offset by a $15.0 million reduction related to the A-6 Replacement Wing DD 1415.

COMPARISON OF FY 1985 FINANCING AS REFLECTED
IN FY 1986 BUDGET WITH FY 1985 FINANCING AS
SHOWN IN FY 1987 BUDGET

(In Thousands of Dollars)

	Financing Per FY 1986 Budget	Financing Per FY 1987 Budget	Increase (+) or Decrease (-)
Program Requirements (Total)	$10,911,798	$10,404,485	-$ 507,313
Program Requirements (Service account)	(10,903,798)	(10,396,798)	(- 507,000)
Program Requirements (Reimbursable)	(8,000)	(7,687)	(- 313)
Less:			
Anticipated Reimbursements	8,000	7,687	+ 313
Reprograming from prior year budget plans			
Unobligated balance available from prior year to finance new budget plans		15,000	- 15,000
Transferred from other accounts			
Add:			
Unobligated balance available to finance subsequent year budget plans			
Reduction pursuant to P.L. 99-190		490,500	+ 490,500
Transferred to other accounts		31,500	+ 31,500
Appropriation	$10,903,798	$10,903,798	-

EXPLANATION OF CHANGES IN FINANCING

The decrease in program requirements is the result of a Congressional reduction of $490,500,000, a DD 1415 reprograming action moving $25,100,000 to the Weapons Procurement, Navy appropriation, an increase to the Service account for the A-6 rewing effort of $15,000,000 from the reimbursable account, and a transfer of $6,400,000 to Operations and Maintenance, Navy as part of the FY 1985 Supplemental Appropriation Act. The reimbursable account had an increase of $14,687,000 which was later decreased by $15,000,000 for the A-6 rewing yielding a net decrease of $313,000.

Status of Aircraft Modification Programs
FY 1986 Modification of Aircraft
Programs as of 30 November 1985

(Thousands of Dollars)

Program	Appropriated 1/	Reprograming	Total Program Value	Total Obligations	Total Expenditures
A-3 Series	4,815		4,815	-	-
A-4 Series	10,272	+ 22	10,294	-	-
A-6 Series	230,654		230,654	-	-
EA-6 Series	37,036		37,036	-	-
A-7 Series	7,569	+ 9,195	16,764	-	-
AV-8A	8,123	+ 6,096	14,219	-	-
F-4 Series	3,712	+ 5,724	9,436	-	-
RF-4 Series	1,358		1,358	-	-
F-14A	158,752	+ 2,706	161,458	-	-
F-8 Series	96		96	-	-
F-5 Series	1,614		1,614	-	-
OV-10	47,246	- 35,213	12,033	-	-
F-18 Series	15,458		15,458	-	-
H-46 Series	134,995	+ 3,483	138,478	-	-
H-53 Series	33,329		33,329	-	-
SH-60	1,569		1,569	-	-
H-1 Series	70,105		70,105	-	-
H-2 Series	32,498		32,498	-	-
H-3 Series	92,786		92,786	-	-
EP-3 Series	36,975		36,975	-	-
P-3 Series	389,023		389,023	-	-
S-3A	281,452		281,452	-	-
E-2 Series	56,876		56,876	-	-
Trainer A/C Series	4,983	+ 67	5,050	-	-
Cargo & Transport A/C	6,842		6,842	-	-
EC-130 Series	5,981		5,981	-	-
C/KC-130 Series	10,948		10,948	-	-
FEWSG	21,757		21,757	-	-
Various	4,611		4,611	-	-
Power Plant Changes	8,002		8,002	-	-
Misc. Safety Changes	4,159		4,159	-	-
Common ECM	189,098		189,098	-	-
Common Avionics	23,927	+ 7,920	31,847	-	-
TOTAL B.A. 5	1,936,621	-	1,936,621	-	-

1/ Includes application of congressional general reductions.

Status of Aircraft Modification Programs

FY 1985 Modification of Aircraft
Programs as of 30 November 1985

(Thousands of Dollars)

Program	Appropriated 1/	Reprograming	Program Value 2/	Total Obligations	Total Expenditures
A-3 Series	5,701	+ 1,942	7,643	3,249	195
A-4 Series	21,465	+ 5,539	27,004	11,849	844
A-6 Series	149,395	+29,553	178,948	150,922	10,332
EA-6 Series	79,635	+ 700	80,335	36,675	2,282
A-7 Series	74,993	+ 3,299	78,292	64,715	3,357
AV-8A	15,382	- 3,485	11,897	10,401	212
F-4 Series	3,335	+ 909	4,244	3,919	276
RF-4 Series	6,246	- 774	5,472	2,978	148
F-14A	241,748	+ 2,517	244,265	186,086	27,854
F-8 Series	175	- 175	-	-	-
F-5 Series	1,527	- 840	687	497	12
OV-10A	47,030	- 9,135	37,895	26,822	1,836
F-18 Mods	27,319	- 5,746	21,573	17,516	218
H-46 Series	148,534	-14,719	133,815	103,213	1,090
H-53 Series	44,444	- 7,183	37,261	15,763	1,226
SH-60 Penguin Mods	11,700	-11,700	-	-	-
H-1 Series	78,084	-34,223	43,861	31,781	1,681
H-2 Series	13,596	+ 3,461	17,057	11,173	969
H-3 Series	104,653	+ 737	105,390	89,492	9,581
P-3 Series	177,477	- 9,486	167,991	129,557	19,393
S-3	155,553	+ 7,230	162,783	132,689	6,130
US-3A (COD)	2,447	- 2,447	-	-	-
E-2 Series	54,612	- 5,959	48,653	46,495	1,562
Trainer A/C Series	7,883	+ 2,211	10,094	5,137	772
T-57	745	+ 17	762	-	-
EC-130 Series	27,688	- 1,795	25,893	16,062	2,210
C-130 Series	14,081	- 791	13,290	8,448	14
FEWSG	34,548	+ 20	34,568	33,704	2,573
Cargo Transport A/C	4,386	- 3,000	1,386	1,375	48

Status of Aircraft Modification Programs

FY 1985 Modification of Aircraft
Programs as of 30 November 1985

(Thousands of Dollars)

Program	Appropriated 1/	Reprograming	Program Value 2/	Total Obligations	Total Expenditures
Various	13,173	- 650	12,523	8,431	2,171
Power Plant Changes	10,454	- 2,910	7,544	1,029	24
Misc Safety Changes	6,955	- 2,147	4,808	1,616	-
Common ECM Equipment	120,243	- 62,111	58,132	27,835	1,139
Common Avionics Changes	25,187	+ 6,175	31,362	26,655	329
TOTAL B.A. 5	1,730,394	-114,966	1,615,428	1,206,084	98,478

1/Includes distribution of the general modification reduction
2/FY 1985 Column of FY 1987 President's Budget

Status of Aircraft Modification Programs

FY 1984 Modification of Aircraft
Programs as of 30 November 1985

(Thousands of Dollars)

Program	Appropriated 1/	Reprograming	Total Program Value	Total Obligations	Total Expenditures
A-3 Series	3,996	+ 2,345	6,341	6,081	2,329
A-4 Series	14,624	- 4,568	10,056	7,126	3,165
A-6 Series	143,065	+32,341	175,406	159,490	68,067
EA-6 Series	74,072	+ 2,629	76,701	60,111	30,397
A-7 Series	127,224	+ 2,219	129,443	114,425	38,581
AV-8A	3,333	- 625	2,708	2,399	1,243
F-4 Series	17,637	- 1,766	15,871	14,261	4,298
RF-4 Series	8,358	+ 8,894	17,252	11,251	4,353
F-14A	162,334	+12,400	174,734	173,832	121,315
F-8 Series	200	- 156	44	41	41
F-5 Series	1,748	- 577	1,171	354	74
OV-10	8,577	- 3,554	5,023	4,369	1,951
F-18 Series	29,681	+ 2,684	32,365	25,903	11,401
H-46 Series	116,175	+ 6,691	122,866	114,339	31,277
H-53 Series	20,653	+ 2,129	22,782	21,077	1,770
H-1 Series	38,828	-17,572	21,256	20,433	3,155
H-2 Series	11,013	+ 2,268	13,281	10,508	4,922
H-3 Series	54,562	+ 7,986	62,548	61,166	26,509
EP-3 Series	24,859	+20,868	45,727	12,856	3,307
P-3 Series	147,501	+ 1,759	149,260	136,799	76,781
S-3A	34,833	+ 8,195	43,028	40,356	10,816
US-3	1,060	- 482	578	543	191
E-2 Series	60,512	-19,269	41,243	40,235	11,115
T-38 Series	500	- 400	100	-	-
T-34 Series	257	- 257	-0-	-	-
T-44	100	- 100	-0-	-	-
T-39 Series	437	- 162	275	264	258
TH-57	2,037	- 2,037	-0-	-	-
T-2	542	+ 340	882	461	22

Status of Aircraft Modification Programs

FY 1984 Modification of Aircraft
Programs as of 30 November 1985

(Thousands of Dollars)

Program	Appropriated 1/	Reprograming	Total Program Value	Total Obligations	Total Expenditures
C-9 Series	2,017	+ 2,842	4,859	4,369	2,698
C-1A	120	- 73	47	36	36
C-2	660	+ 256	916	728	237
UC-12	300	- 287	13	5	-
EC-130 Series	12,286	- 2,245	10,041	8,400	3,873
C/KC-130 Series	13,888	+ 3,525	17,413	9,567	2,941
FEWSG	30,079	+ 2,481	32,560	31,233	13,073
C-131	2,735	- 344	2,391	2,311	2,022
Various	7,875	+ 970	8,845	8,809	6,197
Power Plant Changes	11,907	- 3,688	8,219	4,147	766
Misc. Safety Changes	6,007	- 4,237	1,770	831	416
Common ECM Equipment	144,172	-27,030	117,142	110,919	28,599
Common Avionics Changes	12,763	+ 21	12,784	11,696	3,414
TOTAL B.A. 5	1,353,527	+34,414	1,387,941	1,231,731	521,610

1/ Includes distribution of the reduced escalation budget amendment and general congressional assessments.